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St. Regis Purchases Tacoma Pulp Mill

Acquires Former Pacific Coast Unit of Union Bag & Paper From Niagara Hudson Power Corp. —Plant Has Capacity of 45,000 Tons of Kraft Pulp Annually—Output to be Shipped Via Panama Canal to Eastern Mills of St. Regis for Manufacture of Paper for Use In Multi-Wall Bags—Personnel of Plant to Remain Unchanged

The Pacific Pulp Mill Corporation, a newly organized subsidiary of the St. Regis Paper Company, has acquired from the Niagara Hudson Power Corporation, which recently secured all the stock of the Union Bag and Paper Power Corporation, the pulp mill of that company at Tacoma, Washington, which has a capacity of 45,000 tons of kraft pulp annually. There will be no changes in the personnel of the plant.

It is understood that the output of the mill will be shipped via the Panama Canal to the mills of the St. Regis Paper Company in the East for the manufacture of paper for use in multi-wall bags.

The three hydro-electric plants of 10,000 h.p. capacity, owned by the Union Bag and Paper Power Corporation on the upper Hudson River are now being utilized by the Niagara Hudson Power Corporation.

Bryant Paper Co. Starts New Finishing Room

KALAMAZOO, Mich., May 26, 1930.—Production in the new finishing room of the Bryant Paper Company started Thursday of last week, according to Felix Pagenstecher, president of the concern. On that date paper passed over one of the huge super-calenders. It is planned to begin moving the cutting machines to the new department, preparatory to concentrating all operations in that division. The next step will be to move the Bryant box and shipping case shop to its new quarters. The rebuilding of the No. 10 machine in the Milham division is going forward rapidly. This entire program as above indicated represents an outlay of approximately $750,000 and will effect very decided reductions in costs.

The finishing room, designed by V. D. Simon, is one of the finest boasted by any paper mill in the country. It is of steel and concrete, high, airy and with the finest natural lighting facilities. The floor is constructed of blocks, placed on end and assuring long years of constant wear. A. J. DeKoning erected the building.

Two super-calenders have been installed, each capable of handling a sheet of paper 154 inches wide. They are the product of the Textile Finishing Machine Company, electrically driven and ball bearing throughout, requiring little power to operate in proportion to their huge size. Each super-calender is equipped with a Cameron winder. Another piece of equipment in this room is a large Hamblett cutter. The heavy rolls of paper will be handled through the medium of a five ton traveling crane, manufactured by the Milwaukee Electric Crane and Hoist Company. This crane is electrically driven and operated by one man.

The completion of the finishing plant will give this concern a large amount of space for the storage of manufactured product. The loading dock, running along the entire south side of the building, has been greatly improved by being roofed in, thus making it possible to load cars either in rainy or snowy weather.

The No. 10 machine in the Milham division during the process of rebuilding will be transformed from a Harper type to a Fourdrinier. A new Beloit wet end has been added, as well as a large number of dryers. The machine will run from 600 to 700 feet a minute and insure double capacity in output.

An important and recent addition to the production department of the Bryant Paper Company is W. B. Clemens, who comes here as manager of the production department. He is from the Fitchburg Paper Company, Fitchburg, Mass., where he has established a fine reputation as a maker of fine book papers.

To Enjoin Paper Mill for Cinder Nuisance

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., May 24, 1930.—A suit to enjoin the Oregon Pulp and Paper Company, Salem, from continuing a cinder nuisance has been filed by Walter Winslow, acting on behalf of the Salem Bar Association. This cinder situation has been the subject of considerable controversy with legal action threatened in an effort to have the nuisance corrected, according to the complaint. A permanent injunction is asked for restraining the company from permitting the spread of its cinders about the city, since, the complaint states, stock and merchandise in business houses is being damaged.

Seeks To Enjoin International Dam

GLENS FALLS, N. Y., May 13, 1930.—An injunction is being sought by Harry Borst to prevent the International Paper Company from operating a dam below Lake George near this city. The complainant contends that at intervals high waters in the lake caused by the dam has been mainly responsible for damage to his property. Attorneys for International claim that the dam has been located at that point for many years and only recently was improved so as to lower the water in it. Decision was reserved in the case which was tried last week in Supreme Court.

News Print Manufacturers Confer at Montreal

International Committee On News Print, Including Delegates From Canada and Principal Producing Countries of Europe, Meet At Pulp & Paper Research Institute—Trade Practices and Statistics of Various Over-Seas Markets Discussed.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., May 26, 1930.—During the past week meetings have been held in Montreal of the International Committee on News Print, better known as Ticon, the name being made up of the initials of the formal title. Ticon includes most of the news print manufacturers of Europe as well as Canada. The countries represented in the organization are Great Britain, Norway, Sweden, Denmark, France, Germany, and of course Canada. The meetings were held at the Pulp and Paper Research Institute, the headquarters of the Canadian Pulp and Paper Association, and delegates from the principal paper-producing countries in Europe attended.

No official statement as to the result of the meeting has been forthcoming, but it is known that the meeting discussed trade practices and concerned itself also with perfecting arrangements which had previously been made for furnishing to all members of Ticon complete and up-to-date statistics of the various overseas markets.

The Pulp and Paper Institute was inspected by the various delegates, who were deeply impressed by its complete facilities for carrying on experimental work in connection with the manufacture of pulp and paper, a complete miniature paper mill being available for experimental work.

During their stay in Montreal the visiting members of European paper industries were entertained by the Canadian Pulp and Paper Association at a dinner at the Ritz-Carlton Hotel, at which Harold Crabtree, president of the association, presided, and Ernest Rossiter, chairman of the Canadian branch of Ticon, acted as toastmaster.

In their review of the international market for news print, notwithstanding the recent unfavorable situation as regards Canada and the United States, the visitors expressed the opinion that there is nothing to be alarmed about and that there will never be a condition in which the market will not readily absorb the available supply of paper, even though, temporarily, the output may seem to exceed what is normally required. News print consumption in Europe, it was reported, shows a gratifying and constant increase, and the world outlook in general is not unfavorable.

After the meetings many of the delegates left Montreal on a motor trip to inspect the mills of the Canadian International Paper Company, the Wayagamack Pulp and Paper Company and the St. Lawrence Paper Mills, Ltd., at Three Rivers. The delegates left Three Rivers much impressed with the extent of the paper mills in this district, and have since left for their respective homes.

News Print Vessel On Show In Port

The new motor vessel *Thorold,* of the Quebec and Ontario Transportation Company, a subsidiary of the Ontario Paper Company, was on show in the port of Montreal during the week, and was the center of attraction for a number of guests. A reception was held on board, the visitors being shown the machinery and general construction of the vessel.

The ship is the first of its type seen in these waters, having been built with specially constructed Diesel engines for the news print carrying trade on the Great Lakes between Thorold, Ont., where the head office and mills of the Ontario Paper Co. are located, and Chicago.

The Diesel type of engine, stated A. A. Schmon, vice-president and general manager of the company, was decided on after the company's experts had made an intensive study of the requirements of the vessel, and were built in the famous Sulzer Brothers' plant in Switzerland. The ship has been constructed to carry 4,400 rolls of news print per trip, and presents a unique appearance in comparison with other vessels.

Her high sides, built up practically the length of the vessel, give her a very odd appearance. These walls, built up from the ordinary deck level, are the specially constructed holds of the vessel to be used for carrying paper.

Many features may be found in her construction which places the ship in the latest class of marine building. Prominent among these are the minimum of space occupied by her powerful engines, the auxiliary Diesels, and all her deck machinery which is electrically controlled. One novel feature is a system by which the contents of any tank in the ship, whether oil or water, may be measured by an ingeniously constructed gauge, indicating immediately the quantity and weight remaining in the tanks.

Another is the specially constructed exhaust from the main engines. This is led through a separate boiler and provides low pressure steam for heating purposes throughout the vessel. This boiler has a special oil-firing jet for use when the engines are not operating.

The vessel has been equipped with the latest type of radio apparatus and has been built to British Corporation class to meet the requirements of the Board of Trade and Canadian steamship inspection. She has two main cargo holds, each divided athwartships by non-watertight bulkheads at their centers. Four large hatchways mark the upper deck known as the trunk deck, water ballast in the two peaks in the double bottom and in the bilge side tanks. The whole of the trunk deck is encircled by a lower deck, thereby giving easier access to all parts of the vessel. The new ship can be transformed for grain or pulpwood transportation service in Canadian waters if necessary.

News Print Exports Down In April

Reductions, both in comparison with the preceding month and with the same month of last year, are shown in the export figures for news print and pulp from Canada during April. At $9,199,882 total news print exported during the month shows a sharp drop from the March figure of $12,918,086, and a moderate decline from the $9,747,536 exported during April, 1929. Exports of pulp at $2,631,122 compare with $4,704,595 in March and $3,155,-350 in the corresponding month of last year. For the four-month period, exports of news print show a reduction at $44,807,803 from the $49,048,766 figure of last year, while pulp exports for that period are higher at $14,826,171, against $14,013,625.

The "Floating Life" of Logs

At the invitation of the Woodlands Section of the Canadian Pulp and Paper Association, professors at McGill University are making investigations to find out how logs sink and why they do so. Many logs will not float for any length of time; others will float over a long period.

The whole subject was thoughtfully discussed in a series of papers by G. W. Scarth, Edwin C. Jahn, R. D. Gibbs and C. W. Argue, read during the week before the Botanical Section of the Royal Society of Canada, meeting in Montreal.

"The floating 'life' of a log is one of the key-stones in the economic fabric of the pulpwood industry," it was explained. "On it depends what species of tree can be used and how distant from the mills logging operations can extend. If birch and poplar could be made to float like spruce and pine, the present weeds of the forest would become its most valuable crops.

"The expectation of life of a log when it goes into the water depends as in human affairs, not only on future circumstances, but also on past history. Investigations, therefore, go back to the time when the log was part of a growing tree, and other problems as to the best time to cut, etc., are considered."

The problem which workers at McGill have endeavored to diagnose concerns the causes and explanation of the mortality of certain trees, and the results are expected to help the practical man in making conditions more hygienic for his logs.

Big New Paper Project for B. C.

According to a despatch from Vancouver, California interests are behind a big pulp and paper project being planned for British Columbia close to the mouth of the Fraser River.

James Rear, of Palo Alto, is the chief figure in the negotiations now under way. He is reported to have the backing of some of the Pacific Coast Hearst newspapers.

This is the latest addition to a fairly extensive list of new pulp and paper developments in British Columbia, headed by the construction programme of the Powell River Company now proceeding at Lois River to provide additional power and bring the company's ultimate capacity to 1,200 tons of news print daily.

The Westminster Paper Company's plant rebuilt at New Westminster at a cost of more than $1,500,000, is again in operation this month. Pacific Mills, Ltd., Canadian subsidiary of the Crown Zellerbach interests, is rushing construction of its new converting plant in Vancouver. Equipment continues to arrive for the new plant of the Vancouver Kraft Company at Port Mellon, Howe Sound, and British Columbia Pulp and Paper Company, one of the coast's "big three" pulp manufacturers, has plans for expansion on a large scale which at present are held in abeyance pending improvement in the pulp market.

In addition to all this, International Paper Company is continuing its survey of water-power resources on Vancouver Island with a view to going ahead with the establishment of a 1,000-ton news print mill in the Nimpkish River section as soon as present negotiations are completed.

Project for Utilizing Tidal Power

Harold S. Johnston, chief engineer of the Nova Scotia Power Commission, in an address before the Kiwanis, of Halifax, N. S., outlined a plan for the harnessing of the tides of Cumberland Basin, right at the head of the bay, in the districts between the Elysian Fields and Amherst, by turbines which he said could produce 15,000 h.p. continuously at a much lower cost than the recently completed government hydro development on the Mersey River and, also, a plant capable of putting on the market $6,000,000 worth of ammonium sulphate annually, the total cost of the proposed development being in the vicinity of $10,000,000.

In his talk on the waters of the Bay of Fundy, Mr. Johnston stated that during the six hours of the piling up of the tide through an average range over the area of the Bay of Fundy, the tide generating force of the sun and moon is working on the bay at a rate of about 178,000 h.p. He also stated that there are many points in Nova Scotia along the Bay, where 1,000 to 2,000 h.p. full tide two basin schemes are possible adding that it is reasonably certain that 300,000 h.p. can be obtained along the lines indicated in his address. There are means he said where this would, with its extremely low cost, be very valuable in enormous industries through the use of the natural resources of Nova Scotia, coal, gypsum, pulpwood, etc.

Dealing specially with the possibilities in Cumberland Basin, Mr. Johnston said that the combined tidal hydro-electric and steam-electric power would be so low in cost as to offer the greatest possible inducement for the establishment of electro-chemical, electro-furnace, nitrogen fixation and paper mill industries.

Three large projects for harnessing the tidal power of the Maritimes have for some time past been the subject of negotiation with the authorities. One, which would make a great lake of Passamaquoddy Bay, would generate sufficient power to provide a tremendous amount of electrical energy for the North Atlantic section of the New England States as well as for New Brunswick. Another is for harnessing the famous Reversing Falls on the River Saint John, at St. John, N. B. The other is for harnessing the tides on the Petitcodiac River in New Brunswick, where a wall of water, called a "bore," rushes up every day, presenting a sight which it is said is only duplicated on the Yangtse-Kiang in China. This latter project envisages the electrification of the Canadian National Railways in New Brunswick.

South Carolina Pulpwood for Mechanicville

[FROM OUR REGULAR CORRESPONDENT]

GEORGETOWN, S. C., May 26, 1930.—A large consignment of timber consisting of 1,000 cords of pulp wood to be used in the manufacture of high grade paper will be shipped by the Cooper River Timber Company to Mechanicville, N. Y., about the last of June. The local product will be given a thorough test and if the experiment proves a success, other shipments will follow in the course of the next few months, and the company will increase its activities along this line.

Since the first of April the local concern has been engaged in purchasing pulpwood from individual producers in the county, and preparing this lumber for market. Two hundred and sixty cords are now stacked in the lumber yards, with additional lots arriving daily.

Large quantities of pulpwood have been shipped to Northern markets from Georgetown, but this is the first time orders have been received for the higher grade stuff. Heretofore the pulpwood consigned North has been used for the manufacture of kraft paper. The mills at Mechanicville use the highest grade of timber procurable, it is understood.

The shipment will be moved to New York by barge or schooner, and there transferred to Erie canal barges for transportation to Mechanicville.

The Warren Mfg. Co. To Change Name

On and after June 2, 1930 the name of the Warren Manufacturing Company will be changed to Riegel Paper Corporation. Fifty seven years ago the Warren Manufacturing Company was established by John L. Riegel, his son Benjamin Riegel and three associates. Previous to the establishment of the Warren Manufacturing Company, John L. Riegel manufactured paper under the firm name of John L. Riegel & Son. Both firms were operated until 1912 when John L. Riegel & Son was absorbed by The Warren Manufacturing Company. For many years the products of the Warren Manufacturing Company have been known as Riegel's Papers. The change in name has been made to eliminate confusion caused by the use of a brand name different from the company name. This charge will also tend to eliminate the confusion between the old name and other similar names in the paper industry. There will be no change in the organization or its established policies. The same organization with its improved equipment and enlarged facilities just recently completed will continue to manufacture the same high quality Riegel's Papers.

Discuss Reforestation in New York

[FROM OUR REGULAR CORRESPONDENT]

UTICA, N. Y., May 26, 1930.—Discussion of reforestation consumed an entire session of the State Economic Congress at a meeting held this week in the Fort Schuyler Club. Nelson C. Brown, chairman of the committee and dean of the college of Forestry at Syracuse University, presided and others prominent in the paper industry attending included G. W. Sisson, Jr., president of the Raquette River Paper Company, and Dr. R. E. Sykes, head of St. Lawrence University. Mr. Brown discussed with the committee the proposed constitutional amendment of the state by which it is aimed to encourage and increase reforestation activities dwelling on the advantages to the state which would result from proper handling of forestry matters.

Paper Demand More Buoyant In Philadelphia

Mill Representatives Experience Growing Request For Practically All Standard Grades of Fine Paper—Wrapping Paper Market Exhibits Stronger Undertone Than of Late — Kraft Situation Gradually Clearing Up, With Prices More Stabilized

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., May 26, 1930.—With a spirit of demand in the paper trading of the Philadelphia section there was a turn for improvement that was most gratifying to the dealers. Throughout both divisions, of the paper industry the marked betterment was more in keeping with the seasonal business trend of normal times. Though the tide had turned in mid May the volume of paper shipments was not in keeping with the same period of last year in so far as the distributive branch of the industry is concerned, but the mill representatives selling direct to the consumers reported a parity of demand with the same months of last year. It is believed in the local trade that the month of May will show the best records for paper shipments of any month so far this year and this applies particularly to the wrapping paper division where the trade has been hardest hit in the price recessions that caused much disturbance and loss to the dealers since the current year began.

Direct mill representatives report a growing demand for fine papers, including book papers, coated and unfinished, high grade bonds and writing papers and similar lines selling under contract or in bulk to large consumers in printing and publishing and manufacturing stationery trades. Card boards and bristols, too, show signs of awakened demand and are moving in larger quantities. Fancy writing papers have had the usual seasonal activity. Marked improvement was noticed in the wrapping paper market, steadier conditions promoting orders from consumers who have been holding off purchases. No further disturbance was anticipated in the price of kraft. Now that prices are more stabilized dealers are inclined to place orders with the mills and so both distributors and manufacturers feel that the kraft situation has turned the corner and that prices will hold at the present levels at least and may be advanced before many weeks have passed.

There is a livelier market for all hot weather paper goods, from paper towels to drinking soda fountain and food supplies. Bags continue to be distributed in prices but the demand for the many lines of high grade specialities, such as cellophane faced types, and other lines of novelty bags, continues to grow. There was reduction in the price of sheathings of $2.50 per ton in the week. Building papers and roofings are more active as weather conditions permit of expansion of outdoor building operations. Chip and news board and allied lines are quieter. Binders boards of the better grades are in excellent request. Containers are moving slowly, as are tissues and other packing grades. Textile tubes show slight improvement. Twines are less active and while there is some reduction in prices in hemp and cotton products this situation is not likely to last long. With the present disturbances in India and prospects of future trouble in the country, it is likely that the hemp crops will suffer and rising prices of raw materials will mean higher prices on finished twines.

American Paper Products, Inc., Operating

Organized and chartered under the laws of Pennsylvania, the American Paper Products, Inc., is now operating its newly opened plant at 2113 East Rush street, where will be produced a line of spiral and hand wound tubes used by the textile trades and paper tubes for mailing purposes and other industrial and commercial purposes. The members of the firm are President M. Perelman, Vice President Mrs. Jennie Perelman, Secretary Edward Donlon, and Treasurer Charles Halbert, who formerly was associated with Keystone Paper Products, Inc., Jackson and Water streets, recently sold to the Cleveland Container Company.

Edward E. Babb & Co., Inc., Removes

Removing to larger quarters at 33rd and Arch streets, Edward E. Babb & Co. Inc., with headquarters at Boston, Mass., has arranged for expansion of business in the Philadelphia branch. The firm formerly was located near the University of Pennsylvania at 33rd street and Woodland avenue, but needed larger quarters for its growing business and took over the Arch street property which gives it 30,000 square feet of space. The firm distributes school supplies in paper goods and manufacturers copy, composition, drawing, engineering and other lines of paper, in addition to tablets, composition, folio and other school supplies used in the public and high schools and colleges. Stephen Tieser is manager of the Philadelphia branch.

Menesha Products Co. Opens Philadelphia Offices

Quaker City sales offices have been acquired by the Menesha Products Company at 1528 Walnut street, under management of George W. Sherburne. The local offices will represent the several lines of paper made by the company in its mills in Baltimore and Wisconsin. They include wax papers, napkins, printed bread wraps, ice cream containers and pails, wax paper rolls for home consumption and special package napkins, as well as bulk quantities. The firm also imprints and designs its products to meet the requirements of the trade and its consumers. The Philadelphia offices will take care of the needs of the Eastern distributors.

West Carrollton Parchment Papers Unchanged

The line of vegetable parchment papers made by the West Carrollton Parchment Paper Company, of West Carrollton, Ohio, was offered to the Philadelphia distributors during the past week at prices unchanged from those of the early year. Charles I. Christman represented the mills in a tour of the local distributors.

Ambler Asbestos Shingle Changes

The Ambler Asbestos Shingle and Sheathing Company, with manufacturing plant located at Ambler, Pa., near Philadelphia, has removed the Cleveland offices from 1178 West 11th street to 822 Hanna Building. The Chicago offices have also been changed from 205 West Walker Drive to 1112 Engineers Building. George T. Stone, formerly manager of the Cleveland offices, has been transferred to the Ambler headquarters where he will take up the duties of assistant sales manager.

M. O. Raiguel Co. Continues

Under the direction of the M. O. Raiguel Estate the former business which was conducted by the late Oliver M. Raiguel will be continued by the heirs at the old address, 334 South Delaware avenue. Mrs. Katherin Smith Raiguel, widow of the late veteran paper and paperstock dealer, will be at the head of the management, while active participation in the conduct of the paper stock firm will be continued by the former associates of the late proprietor, William McGrath and Finley Morrow, Jr. The Raiguel Company is one of the oldest of paper stock concerns in the Philadelphia industry and was

founded more than forty years ago by Mr. Raiguel upon his retirement from the paper distribution business. The firm recently took over the warehouses and offices of the International Trading Company, shortly after the destruction of the old quarters by fire.

Atlas Asbestos Co. Buys Ground for Expansion

For the purpose of prividing for an expansion to its present business the Atlas Asbestos Company, with main plant at North Wales, near Philadelphia, has acquired a large plot of ground near the railroad tracks on the opposite side of its present site. With the new site added the grounds have been expanded to three times their former area. There will be erected a roofing plant addition on the newly acquired site, with a railroad siding. The roofing division will augment the manufacture of asbestos textiles.

Southern Distributors for Ehret Magnesia

There has been added to the national distributive sources of the Ehret Magnesia Manufacturing Company, of Valley Forge, Pa., just outside the city, a southern wholesale representative, the Aetna Asbestos Company, with offices and warehouses at 47 Magurum street, Atlanta, Ga. The southern distributors will cover the Alabama, Florida, South Carolina and Tennessee territory in addition to taking care of trade requirements in Georgia.

C. H. K. Curtis Aids Franklin Project

Contributions of $1,500,000 by Cyrus H. K. Curtis and of $225,000 by A. Atwater Kent, radio manufacturer, to the Benjamin Franklin Memorial project were announced last week, at a luncheon of the Poor Richard Club. Members of the Poor Richard Club, the Paper Trade Association, and the Philadelphia Typothetae, were present at the meeting and pledged support to the Memorial from private and public sources. The donations were pledged under the campaigning that is now in force for the raising of more than $5,000,000, which will be devoted to the erection of a memorial building on the Park Way and which will house relics of Franklin and will also have a permanent exhibition of graphic arts from the earliest days of the industry in the United States until the present day. They will include a permanent display of paper making in the country from the founding of the first paper mill by David Rittenhouse in Philadelphia in Colonial days, with reproductions of such mills to the modern paper making plants.

National Gift and Art Shows

There will be held in the late summer and early Fall the eastern shows of the National Gift and Art Association, which occupied headquarters here in the Drexel Building. Announcement was made last week of the Shows to be held in New York, at the Hotel Pennsylvania, August 18-22; in Philadelphia at the Adelphia Hotel, August 25-29; and in Boston, September 8-12, at the Copley Plaza Hotel. There will be shown at the Gift and Art Shows the various paper goods adopted for the gift and art counter, including papeteries, portfolios and other lines of converted paper for dinner favors, decorative purposes and other uses. The line will include domestic and imported papers.

Benjamin Wolf Estate Near Two Million

Benjamin Wolf, banker and investor, and founder of the paper converting and manufacturing firm of Wolf Brothers, envelope manufacturers and drinking cup producers, and of the National Metal Edge Box Company, 13th and Callowhill streets, whose death occurred two months ago, left an estate valued at $1,960,000, according to an inventory filed by his heirs last week with the Register of Wills here. The estate included that amount of personal property, the bulk of which is left to his widow, Mrs. Fredora Wolf, who receives an outright bequest of $750,000. The Federation of Jewish Charities receives $25,000, while Congregation Rodeph Shalom and the Jewish Hospital receives $5,000 each. There were several bequests to relatives. The inventory value of the investment banking division of Wolf Brothers was appraised at $1,001,944. Investments in the firm of Wolf Brothers represented a sum of $218,505, and his interest in the National Metal Edge Box Company, $115,694.

Enterprise Paper Co. Boosts Business

The attitude of the Enterprise Paper Company, throughout the business depression that has prevailed this springtime has been one of optimistic appeal to its customers in the use of its mail matter. The firm has adopted an envelope slogan which brings to the customer a message of good will towards Uunited States industry. The slogan, which is printed in two colors, and which is accompanied by a design of a figure of Liberty bearing a lighted torch, reads "Forward America-Business Is Good—Nothing Can Stop U. S." The slogan is being used on its stationery through courtesy of the Outdoor Advertising Association of America. The head of the firm, Nathan Isen, believes that what business needs today is more encouragement and less pessimism and has taken this means to express his views of the soundness of American commerce and industry.

S. Walter, Inc., Secures Ajax Paper Co. Agency

The wrapping paper and specialty house of S. Walter, Inc., 144 North 5th street, has acquired the agency for the Ajax Paper Company, as Philadelphia distributors, of the line of cups produced by the manufacturers. The local firm will distribute the conical cups made and marketed as the Ajax Cups. The Allentown, Pa., headquarters of the Lehigh Valley Paper Company Division of S. Walter, Inc., will also distribute the cups in the Lehigh Valley section.

William F. Murphy's Sons Co. Adds Branch

With a history extending back to 1820 and one of the first paper distributive houses in the Quaker City linked with the wholesale and manufacturing stationery trade, the branching out of the William F. Murphy's Sons Company, from its long occupied location at 509 Chestnut street, after so many years occupancy of the present site to the West of Broad street section is of interest to the Philadelphia paper trade. Long a land-mark in the down town section, the Murphy headquarters is following the trend of traffic to the West of Broad street of the larger financial and brokerage houses and has purchased the site at 23 South 16th street, where will be remodeled the present structure into a modern wholesale and manufacturing paper and stationery house, linked with the converting branch of the industry. The site was purchased last week and remodeling will require several weeks, when the firm will open a branch store.

John Baker Tuttle Honored

Special honorary services were held in tribute to the 75th Anniversary of association of John Baker Tuttle, of the Thomas W. Price Company, 503 Ludlow street, with the Sunday School of the Silom M. E. Church on Sunday, with Bishop Ernest Richardson of the M. E. Church presiding. The Diamond Anniversary was celebrated by the entire congregation and during the services a handsome traveling bag equipped with ebony set, was presented to Mr. Tuttle by the members of the Sunday School Classes of which he has been superintendent for 31 years and teacher for 45 years and also the Ladies Bible Class of 95 members of which he has been teacher for forty years. He has been teaching Sunday School since his early teens. In expressing appreciation of the Church for the long years of services in the Sunday School, Bishop Richardson paid tribute to Mr. Tuttle's mother, who was one of the founders of the School in 1855. Five members of her group were present at the honorary services paid to her son. Mr. Tuttle, who has been associated with the Thomas W. Price Company for fifty years, and joined forces with the present head of the firm, Thomas W. Fort, Jr., at the same time that the chief official became attached to the staff of the company, rising with him to the executive position which he holds at the present time.

Ontario Paper Manufacturers Fairly Active

With Exception of Box Board Plants, Provincial Mills Are Operating On Satisfactory Basis—Some Fine Paper Mills Are Running Close to Capacity—Improved Demand Experienced for Book and Coated Papers—Coarse Paper Prices Decline

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., May 26, 1930.—While there has been practically a cent a pound reduction in kraft and wrapping papers generally in Canada, the wholesale coarse paper trade is not so inclined to credit backward business conditions with the drop in the wrapping paper market as they are to hold outside competition responsible. Of late there has been a considerable tonnage of southern kraft disposed of in the Canadian market, the product from the south being laid down here cheaper than the hitherto quoted price for the domestic-made paper. In addition to this there have been offerings of Swedish-made kraft which also threatened to affect the Canadian market, although the sales of the product here have not been heavy. One wrapping paper wholesaler told the PAPER TRADE JOURNAL that had it not been for importations of wrappings the price lists of coarse papers in Canada would probably not have been reduced for despite rather backward business conditions the wrapping paper trade had been showing some signs of improvement and in the fall at least normal conditions would have returned. So it would seem that foreign competition was the deciding factor in the downward revision of wrapping paper prices. Of course mill prices have come down too and while the larger mills will not feel the pinch to the full extent, some of the smaller manufacturing plants, it is said, may not be able to operate profitably on the lower price schedule.

On the whole it may be said that the wholesale paper trade in Ontario is gradually improving, although it cannot be said that the large buying era has yet arrived. Caution characterizes all commitments by the paper consumer as well as the paper wholesaler, but a disposition is now being noted to buy fine papers a little more freely and in a number of cases purchasers of paper have been asking mills and distributors to ship earlier than the original orders stipulated. This is taken as a sign of general loosening up in the trade. Manufacturing operations, with the exception of box board, are proceeding on a satisfactory basis and most of the mills are quite busy. While the demand for fine paper is not particularly heavy enough business is being placed to keep the mills moderately busy. Some of them, indeed, are operating close to capacity and in the case of the book paper trade, at least, orders have been booked to well into the summer months. The coated paper trade continues to show signs of improvement and more business is being booked by the mills just now than was the case earlier in the season. Glassine, greaseproof, and waxing papers, are moving moderately well as new uses for these papers are developed and reports from the light weight paper manufacturers state that tissue, toilet and specialty manufacturers have about as much business on hand now as they had at this time last year. On the other hand, the paper converting trade is rather quiet. The paper box trade is undoubtedly quiet and this means that with over-production of board the box board mills have necessarily to run light. The paper box industry is not looking for any great improvement in conditions before next fall. In practically all lines of manufacture in Canada nothing above normal activity is expected before the coming Fall but indications are that the paper trade will be among the first to feel general revival in trade when it comes.

Costigane Inspects Eastern Mills

A. P. Costigane, secretary-engineer of the Ontario Pulp and Paper Makers' Safety Association, has returned to Toronto after visits of inspection to the Millar Bros. mill at Glen Millar; the Frankford Mill of the Canadian Paperboard Company; the Cornwall mill of the Howard Smith Paper Mills, and the Provincial mill at Mille Roches. In respect to the mill of Provincial Paper, Ltd., extensive improvements have been made to the basements and beater room, at Mille Roches and the mill is now in first class condition. The record for accident prevention is good and this line of work is being enthusiastically promoted. At the Cornwall mill of the Howard Smith Paper Mills the plant safety committee was in session when Mr. Costigane arrived when an interesting ceremony took place in the distribution of efficiency certificates to those who had qualified in first aid in the examinations of the St. John's Ambulance Association. The Frankford mill was seen under adverse circumstances, the plant having just recently closed down. "On the whole," said Mr. Costigane, "improvements along safety lines have been made in all the plants in the Eastern Division and the prospects for the coming year as far as accident prevention is concerned are bright."

Pulp Concern Expects Average Season

The Thompson & Heyland Lumber Company, Toronto, large pulpwood operators, expect a busy season and have three mills in operation along the line of the T. B. & O. Railway, at Gooderham, Tory Hill and Harcourt, and another plant which is sawing ten miles from Sault Ste. Marie. About 120,000 cords of pulpwood which were contracted for from settlers, farmers and others, are being handled this season and over one-third of this quantity has already been shipped. Contracts this year have been renewed at practically the same price as last year but the demand is not quite as good as it was in the spring of 1929. James Thompson, president of the concern, states that his firm is seeking to induce purchasers of Canadian pulpwood to use more peeled wood instead of rossed wood. The latter process results in considerable waste of raw material, while peeling is the ideal method, says Mr. Thompson. The company is also producing a large quantity of hardwood and ties.

Labor Troubles at Fort William

The Great Lakes Paper Company, controlled by the Backus-Brooks interests, is still having labor troubles at its Fort William mill. Despatches from the north do not indicate clearly the cause of the trouble, but it is stated that steps are being taken by the company, municipal, and other interests, to avert the threatened strike. If a strike is called at Fort William 300 workers would be put out of employment, although only 33 are union paper makers. Three other mills of the Backus-Brooks Company will be affected if a strike is called—at Kenora, International Falls and Fort Frances. A strike vote was taken some time ago when a strike was favored, it is understood, but before further action is taken union authorities are awaiting word from international headquarters in the United States.

Labor Troubles at Swedish Mills

The Swedish paper and pulp mills apparently have their own troubles, judging by dispatches reaching Toronto, which state that employees in twelve paper mills and four pulp mills owned by paper interests went on strike on April 22. The number of employees in volved is about 4,000.

Notes and Jottings of the Trade

R. G. Dinsmore, of the Bethune Pulp and Lumber Company, Huntsville, Ont., was a recent visitor to Toronto.

William Chepesiuk, West Gore street, Fort William, Ont., died this week in the general hospital half an hour after being struck by a cable of the wood conveyor at the Great Lakes Pulp and Paper Mill. He was married, was 53 years of age, and leaves six

children. Two are graduates of the Ontario Agricultural College and one daughter is a school teacher in Saskatchewan.

Many Toronto paper men and others of allied trades are office-holders in the Toronto Garrison District's Business Men's Association. Included in the offices and committees just elected are: S. J. Moore, of the F. N. Burt Company, honorary vice-president; E. B. Collett, of Collett-Sproule, Ltd., president; Charles V. Syrett, of the C. V. Syrett Paper Company, and A. T. Brown, of E. Pullan, Ltd., vice-presidents; S. J. Frame, honorary treasurer; directors, A. W. Thomas, of the Copp-Clark Company, Ltd.; James Brown, of the J. L. Morrison Company; George E. Bryant, of Warwick Bros. & Rutter; Harry Pullan, of E. Pullan, Ltd.; C. E. Diehl, of the F. N. Burt Company; Bart Sproule, of Collett-Sproule, Ltd.; Allan Manchester, of the Regal Paper Box Company, Ltd.

Working plans for a skating and curling rink to be erected in Kapuskasing, Ont., for the Spruce Falls Power and Paper Company, have been completed by a Toronto architect and work will commence at once. Plans call for a skating rink, 223 by 177 feet, wood walls, steel truss roof, with corrugated iron sheathing; curling rink, 175 by 33 feet, similar construction, and dressing rooms of frame and stucco construction. The locker rooms are to be heated from heating equipment of other buildings.

Don Valley Paper Mills and the Howard Smith Paper Mills were exhibitors of paper at the advertising and sales round table conference at the Royal York Hotel in Toronto on May 20 at which an address was given by the Hon. Arthur Meighen, ex-Prime Minister of Canada. The exhibit of advertising constituted the "Leaders of the World" Exhibit of 48 complete advertising campaigns of leading advertisers in the United States, supplemented by a representative display of Canadian advertising. Many Toronto firms connected with the Toronto Typothetae displayed some particularly fine advertising pieces done in their own shops.

The Don Valley Paper Mills, Toronto, have put in a plant for the manufacture of commercial cut cards for which there is quite a large demand in Canada and which has hitherto been supplied by United States firms. This is the first Canadian paper manufacturing firm to take up the manufacture of this type of commercial cut and boxed cards.

Work of Import Committee

The June docket of the United States Customs Court will probably schedule for trial over 800 cases involving the imposition of an additional duty of 10 percent for special finish on writing paper and papeterie. Additional duty was collected on all these shipments, but protest was made to the Customs Court on the claim that the paper was not specially finished as held by the customs authorities. While the test case decided some months ago was pending, all of these cases were suspended and are now coming up for trial. It is not known whether the importers will seek trial of their various importations on the claim that the issue is different from that in the test case, or whether they will abandon the cases by acceptance of the ruling on the case taken as a precedent. Every case which goes to trial will require the taking of testimony to determine whether the paper is specially finished in accordance with the terms of the tariff act. If any of these cases go to trial the Import Committee of the American Paper Industry will assist the Government in securing evidence to sustain the claim of special duty, as it did when the original test case was tried.

An importer of kraft wrapping paper shipped from Sweden to San Juan, Porto Rico has at last abandoned his protest against a claim of undervaluation which the Import Committee recorded in 1925. The case was scheduled for trial in the United States Customs Court twenty-eight times before the importer finally decided to abandon the fight. This case is mentioned as an example of the manner in which the Import Committee functions at every port of entry in the United States, and that it does not confine its efforts to the larger ports.

Paper Production Increases

According to identical mill reports to the Statistical Department of the American Paper and Pulp Association from members and cooperating organizations, paper production in March showed an increase of 4 per cent over February, 1930, and a decrease of 6 per cent under March, 1929. The total wood pulp production in March registered an increase of 12 per cent over February, 1930, and an increase of 6 per cent over March, 1929.

The March production of newsprint, uncoated book, paperboard, bag, wrapping, writing, tissue and building papers registered a decrease under March, 1929 output. Hanging paper production showed a substantial increase in production over March, 1929. Shipments of all grades of paper, excepting hanging paper, decreased as compared with March, 1929.

Newsprint, uncoated book, writing, tissue and hanging papers registered increases in inventory at the end of March, 1930 as compared with the end of February, 1930. As compared with March, 1929 inventory, newsprint, wrapping and bag papers showed decreases. The total stocks on hand for all grades was 4 per cent above February, 1930, and 10 per cent above March, 1929.

Identical pulp mill reports for March, 1930 indicated that during March, 1930, 18 per cent more mitscherlich sulphite pulp, 6 per cent more bleached sulphite pulp and 5 per cent more kraft pulp was consumed by reporting mills than in March, 1929. The total shipments to outside markets of all grades of pulp in March, 1930 were 3 per cent below the total for March, 1929.

Easy bleaching sulphite pulp was the only grade that showed a decrease in inventory at the end of March as compared with the end of February, 1930. As compared with March, 1929, groundwood, news grade sulphite and soda pulp registered decreases in inventory.

REPORT OF PAPER OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF MARCH, 1930

Grade	Production tons	Shipments tons	Stocks on hand end of month tons
News print	113,331	109,765	24,004
Book (Uncoated)	84,365	79,612	49,364
Paper board	193,169	194,308	59,825
Wrapping	48,996	49,431	45,777
Bag	14,457	15,064	6,755
Writing	34,048	32,012	46,344
Tissue	11,750	11,422	8,879
Hanging	5,587	4,888	4,242
Building	5,146	5,155	4,990
Other grades	21,878	20,305	15,935
Total—All grades	532,727	521,962	266,115

REPORT OF WOOD PULP OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF MARCH, 1930

Grade	Production tons	Used during month tons	Shipped during month tons	Stocks on hand end of month tons
Ground wood	106,205	85,403	2,600	64,492
Sulphite news grade	38,734	34,167	3,109	7,858
Sulphite bleached	28,544	25,901	2,409	3,218
Sulphite easy bleaching	2,906	2,844	375	744
Sulphite Mitscherlich	7,913	6,621	1,240	1,020
Kraft pulp	31,954	26,608	3,887	8,478
Soda pulp	24,779	15,963	8,628	3,812
Pulp—Other grades	62	.....	59	32
Total—All grades	241,097	197,507	22,307	89,654

Boston Paper Trade To Meet

BOSTON, Mass., May 26, 1930.—The annual June meeting of the Boston Paper Trade Association will be held at the Charles River Country Club, Newton Center, Mass., on Tuesday, June 10. The business session will open at 1:30 p.m., the morning being devoted to an interesting program of events including the contest for the Golf Championship Cup. As this is the first summer meeting to be held under the regime of the new president, Albert R. Smith, of the Keith Paper Company, effort is being directed to having this the largest attended of any summer meeting. Among those whose names will be presented for membership at this meeting are Anthon Olafsen, of the Waterfalls Paper Company, Ray A. Wight, of Crane & Co., and Blair B. Stringfellow, Jr., of Boston, Mass.

Safety Conference to be Held at Green Bay

Sixth Annual Gathering of Fox River Valley and Lake Shore Safety Council to Take Place June 4, When Large Attendance Is Anticipated — Well-Known Speakers to Address Paper Mill Section of Conference—Safety Playlet to be Staged

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., May 26, 1930.—Attention of the paper industry will be centered again on the subject of safety when the sixth annual gathering of the Fox River Valley and Lake Shore Safety Council is held June 4 at Green Bay, Wis. In order to promote accident prevention more than ever a big street parade will be held in which industries will place floats. Attendance will be at least 1,500.

In the paper mill section of the conference, there will be several speakers. R. G. Knutson, of the Wisconsin Industrial Commission will preside. Addresses will be made by J. M. Conway, president of the Hoberg Paper and Fibre Company, Green Bay; J. H. Slater, general manager of the Escanaba Paper Company, Escanaba, Mich; F. J. Finkbeiner, of the industrial commission, and Attorney Archie McComb, Green Bay.

There is also to be a general afternoon session, with C. R. Phoenicie, president of the safety council, presiding. William Hales, safety engineer, is to speak on "The Value of Human Life," and Fred M. Snyder, of New York City, on "Why?" There will also be a safety playlet, "The Foreman Is Responsible for Accidents."

Tomahawk Protective Committee Formed

Action to conserve the assets and good will of the defunct Tomahawk Pulp and Paper Company, of Tomahawk, Wis., will be taken by the bondholders, according to plans which are in progress now. A bondholders' protective organization is being perfected by the First Trust Company, of Appleton, Wis., through whom the bonds originally were issued. Under the agreement, all bonds are being deposited with the trust company with the understanding that full power of attorney to act for their interests will be conferred on a protective committee consisting of F. E. Ballister, K. S. Dickinson and M. D. Smiley. Powers of this committee are made liberal enough so that the mill can be operated by these men if deemed necessary or advisable.

Outstanding bonds of the company amount to $200,000. They are a first sinking fund mortgage at 7 per cent. The company recently defaulted on the trust agreement supporting this bond issue by failing to keep the required ratio of quick assets to current liabilities, and by not meeting the sinking fund requirements. The First Trust Company therefore applied for a receivership, which was granted by the Lincoln County Circuit Court recently. The Wisconsin Valley Trust Company, of Wausau, Wis., is the receiver. Negotiations had been in progress to dispose of the mill, but these did not materialize.

Consolidated Storeroom Remodeled

Complete remodeling of the store room of the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., has been accomplished. Wood floors and beams were removed, and concrete was built, with steel for the beams and supports. All of the wooden racks were also taken out and steel storage equipment of the latest type installed. Although the storage facilities are increased, they take less floor space than formerly. The rearrangement will also save considerable time and steps in the handling of supplies because of the manner in which the receptacles and shelves are placed. An indirect lighting system also improves the department.

More Pulp and Paper Making Classes Planned

Practically every Wisconsin city in which paper mills are located will have classes in pulp and paper making next fall under auspices of vocational schools, according to H. G. Noyes, of Appleton, Wis., director of this work in the state. The plan was started in the Fox River Valley several years ago and has since spread to all paper centers. A new series of classes in foremanship also has been planned. These are conducted right at the mills, as a rule. Results of these training courses have been better workmen and a better selection of men for executive positions in the mills.

News of the Industry

The Consolidated Water Power and Paper Company has signed a year's agreement on wages and working rules with various labor unions represented in the mill. This is the twelfth year in succession that the company has operated with organized labor. Employees' representatives from the Appleton, Wis., branch of the company, known as the Interlake Pulp and Paper Company, participated in the conference this year for the first time.

Permission has been granted to the Green Bay Traffic Association by the Interstate Commerce Commission to intervene in the rate case of the Wisconsin Paper and Pulp Manufacturers Traffic Association against the Chicago and North Western Railroad. The former organization represents the Fort Howard Paper Company, the Hoberg Paper and Fibre Company, and the Northern Paper Mills, of Green Bay, Wis. This is a two year old case involving rates on paper products principally from the Fox River Valley, Upper Michigan and Waukegan, Ill., to points in the south and south west. It is charged that the rates are unreasonable, unjust and discriminatory in favor of shippers in West Coast states. The orignal complaint declares that about 630,000 tons of paper products, exclusive of wood pulp, were shipped by members of the association during one year. Hearings have been postponed from time to time and the case is now called for June 2, 1930, at Kansas City, Mo., where other paper rate cases will be heard at the same time.

Operations for three straight months without a lost time accident have been accomplished by the Biron mill of the Consolidated Water Power and Paper Company, at Biron, Wis. The Interlake division at Appleton, Wis., also is making a good safety record, having operated during March and April without any lost time accidents.

Construction has been started by the Nekoosa-Edwards Paper Company on a $300,000 pipe line to bring pure water from Nepco Lake to the company's mill at Nekoosa, Wis. The pipe will be 30 inches in diameter, and the line will be 19,000 feet long. It will cross the Wisconsin River. The line will supply about 18,000,000 gallons of water daily to the Nekoosa mill. The lake was created some time ago when a new dam was built by the company, and at that time a pipe line was built to the Port Edwards mill, supplying 12,000,000 gallons. By this method the company has an inexhaustible supply of pure water for both of its large mills.

The Kimberly-Clark Corporation has established a department in its employment office at its mill village of Kimberly, Wis., to give employment to boys in school. Requests will be handled there for boys to do miscellaneous jobs for business men and others in the village.

An assessment made against the Kimberly-Clark Corporation, Neenah, Wis., by the United States Internal Revenue bureau amounting to $49,073.67 has been protested. The amount involves taxes on income and profits for 1926. The board of tax appeals has the case under consideration.

Carl A. Loehning, a beater engineer for the Bergstrom Paper Company, Neenah, Wis., died last week of a heart attack. He had been employed there for 33 years.

Chicago Paper Market Shows Improvement

Manufacturers Representatives and Local Distributors Report Increased Demand for Standard Grades—Fine Paper Moving In Fairly Satisfactory Volume, With Promising Outlook for Summer and Autumn—Book Papers Are More Active

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., May 26, 1930.—A steady improvement in conditions in the paper industry is noted this week as Chicago paper jobbers and manufacturers representatives report an increase in demand and orders which are placing mills, in some lines, appreciably behind on schedule. The news print market is improving as business improves.

In the fine paper market, over the counter demand slid back a bit after the use of paper for graduation and commencement exercises, but jobbers are going into the middle of the year with good prospects for summer and fall business. Demand is fair and the market steady. Book papers are slow but speeded up slightly over the previous week. Prices are firm. Ground woods are active. In the kraft market—and in the coarse paper market in general—business is better. Jobbers of coarse lines reported last week that an improvement could be noted. The board market still finds fault with the price situation but is assured of an excellent demand, which will improve as the price trouble clears up.

The waste paper market was fairly active during the week. All in all, even with a holiday week ahead, Chicago paper merchants are confident that the next five weeks will show a continuance of the improvement noted during the past week.

Paper Salesmen's Golf Season Begins

The 1930 golf season for the Chicago Division of the Salesmen's Association of the Paper Industry opened with a bang on Thursday, May 22, when thirty of the tried and true golf artists and their guests took up the fight over the sporty Elmgate Country Club course. According to Frank Prentiss, chairman, it was one of the most portentious openings the association has yet had, with lots of pep, bridge and singing taking care of the hours not strictly devoted to golf. Low net for the day went to Mr. Babcock, a guest of Warren Moore, of the Brown Company, while Tom Donahue celebrated his relief from the job as golf chairman by winning the Blind Bogey prize. Tom is with the Warren Manufacturing Company.

Low net on the first nine was won by Frank Prentiss, of Hollingsworth and Whitney, the present golf chairman, while low net on the second nine went to D. C. Frisbee, of the Butler Paper Corporation. Low putts honors were taken by Harry Johnson, of the Brown Company, with the lowest score on three par holes copped by A. J. Austin, of Moser Paper Company. The Moser Paper Company also had another prize winner in E. D. Buchanan, who took the honor of high gross score. And that's the prize list.

Mr. Prentiss gave out the dope that the next big event would be held on June 19 at the sporty Westmoreland Country Club course where Warren Moore will see to it that the boys are well taken care of. Westmoreland is one of the city's finest courses.

Paperboard Industries Association Meets

The regular meeting of the Paperboard Industries Association at the Drake Hotel was one of the important events in Chicago paper circles during the past week. According to H. S. Adler, secretary of the association, attendance was unusually good and much of genuine value to the industry was accomplished. Again, as it becomes of increasing importance, the Trade Practice work was given a great deal of attention. Constant efforts to improve conditions in the trade are going on and some of the accomplishments of the past and plans for the future were the subjects of both formal and informal discussions at the Chicago meeting.

At the same time the three divisions of the Paperboard Industries Association—the Folding Box, the Paper Board and the Container groups, met in sections for the going over of their particular problems. On the last day of the meeting, May 22, a general meeting was held of the entire association. According to Mr. Adler dates and location of the next regular meeting have not been definitely announced, although, if the association follows schedule, the next event is slated for the eastern sea board.

News of the Trade

A splendid advertising folder from Bermingham & Prosser, 128 South Sangamon street, Chicago, is headed "Industrial Advertising with Oxford English Finish Paper." The first page of the folder depicts an industrial scene and carries the title, while the two inside pages are given over to illustrations, showing industrial scenes and copy which consistently reflects; the industrial appeal. The colors, dark green, black and white; the illustrations and the copy all are printed to conform with the subject discussed—industry. The result is an effective and harmonius appeal.

The Paper Mills Company, Chicago, has released a brand new color swatch of Beau Brilliant, a Strathmore paper in non-fading colors which is set forth in striking fashion and more than lives up to its name.

The Seaman Paper Company, explaining rotogravure in detail, has made quite a hit with its book, "The New Mode in Printed Selling."

"The Modern Mailing Method" is the title of the DuPlex Envelope Corporation's new book, which contains many ideas on mailing pieces of various sizes and shapes.

Boston Paper Market Steady

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., May 26, 1930.—Estimating the wholesale paper market from reports around the trade an average amount of business has apparently been transacted during the last week. In fine papers some of the prospective orders have been closed and it seems probable that a substantial volume of orders will develop in the near future. Business put through by several firms varies in amount, as usual. Some have only a fair demand and others have been exceedingly busy. In some quarters demand has been spotty. Coated papers are mentioned as being in a favorable position. Indications of an increased amount of advertising by several large firms continue.

In wrapping paper the volume of sales appears to be at least fair, "going along well," to quote a dealer. The price situation remains fully as unsatisfactory, with keen competition. A number of mills have marked down the minimum price of No. 1 kraft a half-cent, so that a new low of .05¾ f.o.b. mill has been reached. Box board prices are firm and unchanged, and the demand is fair.

The paper stock situation has not improved. There is, according to reports, a large accumulation of material and a quiet demand. The maximum price paid by consumers for mixed papers appears to be $45 a ton. Several grades of paper stock have been marked down still further and the general trend is a decline. The situation is worse than that of a year ago. Some distress roofing rags have been offered on the market. The roofing mills are practically all operating only part time. All grades of roofing stock are lower. No. 1 is now quotable at 1.50 to 1.65, compared with a previous range of 1.65 to 1.75, No. 2 at 1.00 to 1.10, compared with 1.40 to 1.50, No. 3 at .90 to 1.00, compared with 1.05 to 1.10, and No. 4 at .95 to 1.05, compared with 1.10 to 1.15.

New York Trade Jottings

The annual meeting of the National Wall Paper Wholesalers' Association was held at the Hotel Commodore, New York, Monday and Tuesday.

* * *

Schlosser Paper Corporation is now installed in its new quarters on the second floor of 75 Varick street, New York. The telephone number is Canal 2760.

* * *

International Paper Company has announced the appointment of the Merriam Paper Company, of 150 Lafayette street, New York, as a distributor of Adirondack Bond.

* * *

Regular weekly meetings and luncheons of the New York Division of the Salesmen's Association of the Paper Industry have been adjourned until the Monday following Labor Day.

* * *

William M. Pringle, vice-president of the Seaman Paper Company, heretofore in charge of its Philadelphia office, has been appointed eastern sales manager, with headquarters in the Chanin Building, 122 East 42nd street, New York.

* * *

Jesse H. Neal, manager and treasurer of the American Paper and Pulp Association, was in Washington, D. C., last week as honor guest at the annual banquet of the Advertising Federation of America. Mr. Neal attended some of the sessions of the convention.

* * *

Lea Gauge Company, of 1440 Broadway, New York, has been organized to act as exclusive distributors here for the Ashcroft Thickness Gauge. The Lea Gauge Company will also distribute the Ashcroft Paper Tester, a device for determining the bursting strength of paper.

* * *

New York Curb Exchange has admitted to unlisted trading privileges St. Lawrence Corp., Ltd., Class A $2 cumulative convertible preferred stock, par value $50, and also common stock, no par value. Both securities when, as and if issued in exchange for common stock of St. Lawrence Paper Mills Company, Ltd., and common stock of Brompton Pulp and Paper Company, Ltd., in accordance with plan and notice addressed to the stockholders.

* * *

Report of MacAndrews & Forbes Company, box board manufacturer, etc., New York, for quarter ended March 31, 1930, shows net profit of $255,763 after expenses, federal taxes and company's proportion of results of operation of subsidiaries, equivalent after dividend requirements on 6 per cent preferred stock, to 66 cents a share on 339,600 no-par shares of common stock. This compares with $289,885 or 67 cents a share on 383,539 common shares in first quarter of 1929.

* * *

S. H. Behrens, formerly vice-president and general manager of the James P. Heffernan Paper Company, has established his own business under the name of S. B. Behrens & Co., with offices at 115 Broad street, New York, to do a general paper business. A staff of experienced paper men have joined the organization of S. B. Behrens & Co., and will be glad to take on the representation and distribution from such paper manufacturers who are not now represented in the New York market.

* * *

C. T. Hahn, aged 67, of 125 Townsend Avenue, Clifton, Staten Island, who retired from his connection with the Louis De Jonge Company, paper manufacturers, on May 1, after 47 years of unbroken service, was honored with a dinner by thirty of his fellow employes, when he was entertained and presented with a gift. Mr. Hahn was born in Gelnhausen, Germany, not far from Frankfurt-am-Main, and came to Staten Island on July 10, 1883. He went to work for the De Jonge Company at once, and has worked there ever since. During the 47 years, he did not miss one day of work. The dinner in his honor was arranged by Harry Taylor, who acted as toastmaster, and Gus Ullmann, Jr. Of the thirty guests, all have served at the De Jonge company for at least 25 years. Gus Ullmann, Sr., is completing his 54th year of service.

A. P. W. Paper Co. Plans

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., May 26, 1930.—In a statement to owners of common stock in the A. P. W. Paper Company future plans of the newly created American Public Welfare Trust in reorganization of the firm were outlined to some extent. The latter concern has taken over a controlling interest and in its statement it shows that the trust will be capitalized through an issue of 156,000 shares of class A common stock with a par value of $10 and 10,000 shares of class C common with no par value. Creation of the trust is credited to Roger W. Babson who is convinced that the country is undergoing a radical change in connection with hygienic supplies.

The position of the trust in the present management is partially explained in the statement. W. D. Hollister, an official of the Babson Institute, has been named executive vice president and general manager in the reorganized paper concern. In regard to possible amalgamations in the hygienic supply field the statement concludes by saying that it is evident that some very important consolidations in these lines are ahead. The present method of different companies supplying toilet tissue, lime, lye, towels and cleansers is declared wasteful and may soon be changed so that one concern may supply a customer with all these products, according to the statement.

Paper Demand Slow in Indianapolis

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., May 26, 1930.—Little active business is reported in the paper trade here. Uniformly light stocks are held both by jobbers and by the consumers and everybody seems content to mark time and see what happens during the summer months. Such business as is being received calls for small orders and these orders are none too frequent. At that all of the jobbers continue to do some business, but the distinctness of the complaints is becoming more evident.

As in the past complaint continues concerning price competition. This does not seem so marked among the local jobbers, but their heavy competition is coming from out of town where it is contended jobbers, at least some of them, are taking almost any sort of price to sell the merchandise.

Kraft demand and prices are in poor shape. Wrapping paper particularly is off just now. Paper stock men say they will not sell their merchandise at the ruinous prices that now prevail. As a result practically every paper stock house in town is full and the managements are casting about for other suitable storage places.

A fair demand is reported for glassines and it is rather thought this demand will continue in good volume during the summer. Building papers, while increasing somewhat in demand, are not selling in the same volume as they did a year ago. There is just not the volume of construction this year.

Norwegian Paper Market Quiet

Conditions in the Norwegian paper market have undergone little change during the past month according to reports to the Department of Commerce. Unglazed news in sheets has been in better demand and the mills are reported to have a sufficiency of orders on hand. The demand for roll news print and thin printings, however, continues dull. Both the kraft and greaseproof markets are quiet, with a tendency to lower prices.

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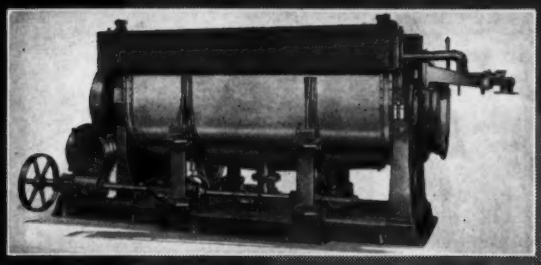
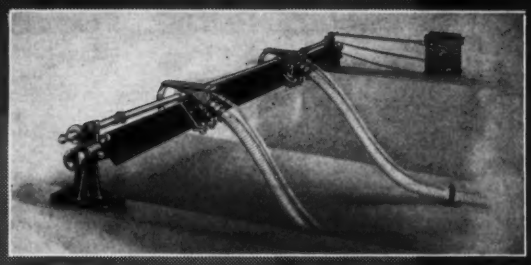


THE BIRD SCREEN

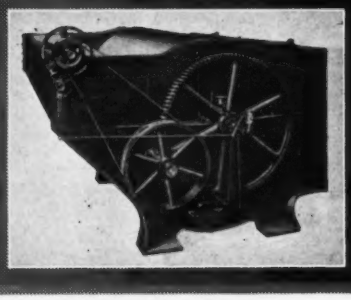
In every important paper making country, the Bird Screen is preferred for its great capacity, its high quality of output, its low cost of operation.



THE VICKERY FELT CONDITIONER

Vickery Felt Conditioners eliminate shutdowns for hand washing and roping, increase production, improve paper quality, usually lengthen felt life.

BIRD MACHINERY

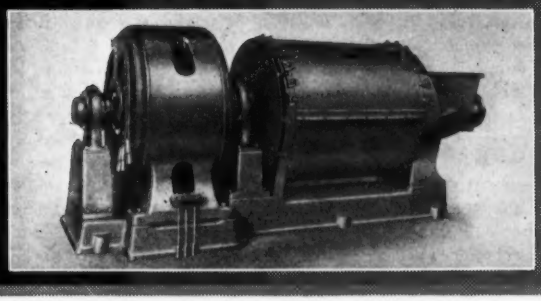


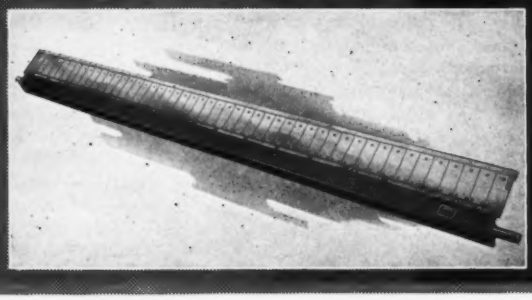
THE BIRD CENTRIFINER

The Bird Centrifiner makes possible a paper that is really clean — increases the percentage of No. 1 sheets.

THE BIRD SAVE-ALL

The Bird Save-All and the Bird System of White Water Recovery recover all the fibre from the waste water at the lowest cost per pound.





THE BIRD PULP SCREEN

The Bird Pulp Screen reduces costs by producing a tremendous quantity of uniformly good stock in small space, with little power.

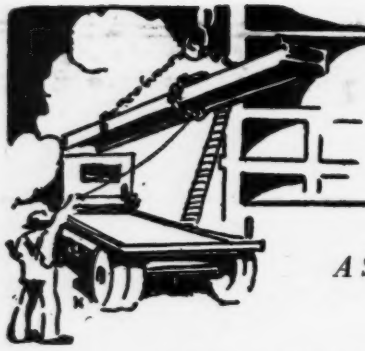
THE VICKERY DOCTOR

Vickery Doctors are self-adjusting; they keep every inch of every roll always clean, without attention.

BIRD MACHINE COMPANY

SOUTH WALPOLE ◂▪▸ MASSACHUSETTS

4066



CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Fitchburg, Mass.—The Crocker, Burbank Company, Inc., Westminster street, has approved final plans for extensions and improvements in mill, awarding general contract for work to Wiley & Foss, Central street, Fitchburg. It is understood that work will provide for considerable increase in present production, with estimated cost placed at close to $100,000, including equipment. The project will proceed at once.

Oakland, Cal.—The Los Angeles Paper Box Company, 3324 South Main street, Los Angeles, is completing plans for a new plant unit at 2615 Pitt street, Oakland, for which bids will be asked at once on general contract. It will be one-story, 163x200 feet, used for the production of folding paper boxes and cartons, reported to cost close to $80,000, with machinery. The work is being carried out in connection with a general expansion program of the company of which previous reference has been made in these columns. William Knowles, 1214 Webster street, Oakland, is architect for the new unit and will supervise erection.

Rumford, Me.—The Oxford Paper Company has plans for a new steam power plant at local mill and has awarded general contract to the Morton C. Tuttle Company, 31 St. James avenue, Boston, Mass.; work will be placed under way immediately. The new unit will be one-story, reported to cost over $85,000, with machinery. Charles T. Main, Inc., 201 Devonshire street, Boston, Mass., is architect and engineer.

Ampthill, Va.—The du Pont Cellophane Company, River road, Buffalo, N. Y., has awarded a contract to the Virginia Bridge and Iron Company, Roanoke, Va., for structural steel framing for new mill unit on property recently acquired at Ampthill, near Richmond, and superstructure will be placed under way at an early date. The mill will be used for the production of moisture proof transparent wrapping papers for food products, etc., as regularly manufactured by the company. The entire plant project will comprise several buildings and the structural steel award covers 100 tons of structural steel shapes. It is understood that an investment of close to $4,000,000 will be made for the ultimate plant. The duPont Engineering Company, duPont Building, Wilmington, Del., is engineer.

Kimberly, Wis.—The Kimberly-Clark Corporation, North Commercial street, Neenah, Wis., has awarded general contract to the C. R. Meyer & Sons Company, 50 State street, Oshkosh, Wis., for proposed new addition to paper mill at Kimberly, to be one-story, about 50x70 feet, equipped as an extension to beater room, providing for considerable increase in present production. An award for reinforcing steel for concrete superstructure has been let to the Kalman Steel Company, Milwaukee, Wis. Company engineering department is in charge of work.

Los Angeles, Cal.—The Waxed Paper Products Corporation of California, care of K. B. Kennicott, 408 South Spring street, Los Angeles, attorney, recently organized with a capital of $100,000, plans operation of local plant for the manufacture of waxed and other processed paper stocks. The new company is headed by D. W. Carpenter, Beverly Hills, near Los Angeles; A. Eric Copland and George T. Vance, both of Los Angeles.

Albany, N. Y.—The A. P. W. Company, Broadway, manufacturer of tissue and other paper stocks, has arranged for an increase in capital from 156,000 to 236,000 shares of stock, no par value, for general expansion. The company was recently acquired by the American Public Welfare Trust, Babson Park, near Wellesley, Mass., an interest of Roger W. Babson, financial statistician, and it is understood that new owner will increase operating facilities.

Bingham, Me.—In connection with new newsprint mill of the Maine Seaboard Paper Company, Augusta, Me., at Bucksport, an interest of Walter S. Wyman, and associates, heads of the Central Maine Power Company, the last noted organization is pushing construction of a hydroelectric generating plant on the Kennebec River, near Bingham, a considerable portion of the output to be used for the mill operation. The power station is scheduled for completion early in the fall and will represent an investment of more than $10,000,000. It will be equipped with three water turbines, each with capacity of 34,000 horsepower, making a total output of 102,000 horsepower. This will be one of the largest hydroelectric power developments in New England on the basis of plant capacity, and will include an extensive transmission system.

Hopewell, Va.—The Hummel-Ross Fibre Corporation, Hopewell, plans rebuilding of portion of mill destroyed by fire May 18, with loss reported at close to $25,000, including equipment.

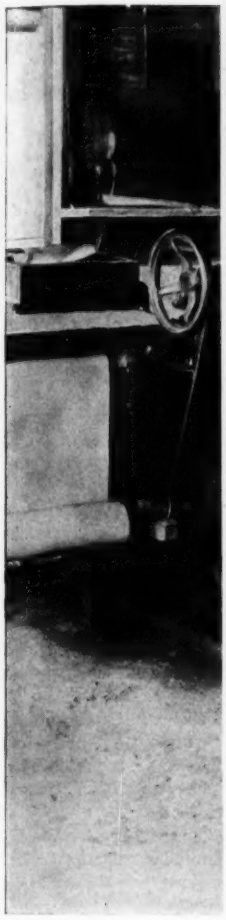
Somerville, Mass.—The Agar Manufacturing Company, Clyde and Warwick streets, manufacturer of paper boxes and containers, has work nearing completion on a new one-story addition to plant, to be used for increased production. It will be 100x240 feet, reported to represent an investment of close to $80,000, with machinery. The unit will be placed in service as soon as it is ready, understood to be within the next sixty days.

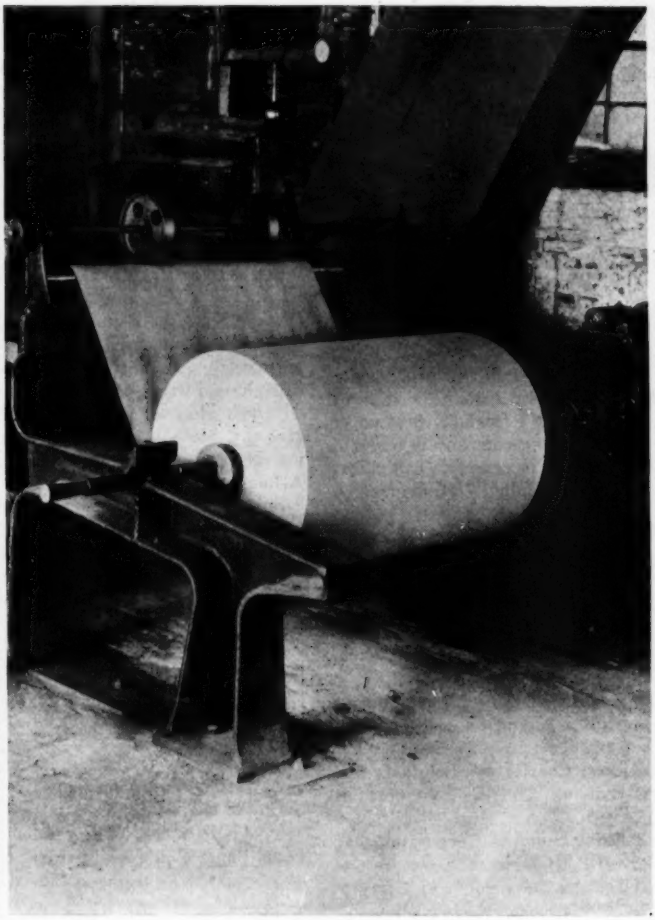
Salem, Ore.—The Western Board Products Company, Salem, has plans under way for construction of a new plant unit, consisting of a one and one-half-story building, 60x170 feet, reported to cost more than $30,000, with equipment. It is proposed to begin work at early date. A. A. Siewert, Center and Winter streets, Salem, is architect in charge.

Manistee, Mich.—The American Paper Box Manufacturing Company, Saginaw, Mich., is arranging for the establishment of a new branch plant at Manistee for the manufacture of paper boxes and cartons. It is proposed to begin operations at the new location within thirty days, and a considerable portion of output will be used by local shoe, shirt and affiliated factories. J. H. Starke is president and treasurer, and D. M. Starke, secretary.

Evansville, Ind.—The Atlas Box Company, 932 East Pennsylvania street, has completed plans and asked bids on general contract for a new addition to plant, comprising a two-story unit, 52x65 feet, reported to cost about $25,000, with equipment. It is proposed to develop considerable increase in present output. Alfred E. Neucks, Old National Bank Building, Evansville, is architect in charge.

Hilo, Hawaii.—The Hawaii Cellulose, Ltd., organized a number of months ago, to construct and operate a plant for the manu-





A TIME SAVER

Our Measuring Rewinder is equipped with an automatic device which throws out the clutch after the desired amount of paper has been rewound. . . . . It is fully described in our new Catalog Section 108, which covers the various types of Winders built by us. . . . . Write for it today, even though you are not in need of this equipment at the present time.

DOWNINGTOWN MFG. CO.
DOWNINGTOWN, PA., U. S. A.

facture of wallboard and kindred products from bagasse, or cane sugar waste, and which project has been held in abeyance, is scheduled to become active at an early date through the organization of a new company with capital of $1,500,000, to take over the existing company and proceed with the project. The property transfer will consist of a tract of about 25 acres of land in the vicinity of Hilo, originally purchased for a plant site. The mill will consist of a number of units and is reported to cost close to $800,000, with equipment; the project will include a machine shop, power house and auxiliary mechanical structures. A research department is being organized to determine further uses for bagasse in the form of paper pulp, various paper products, as well as rayon. The project is headed by Theodore Davies & Company, Alexander & Baldwin, and Castle & Cooke, all of Honolulu, representing a large number of Hawaiian sugar estates, from which it is proposed to develop raw material supply.

Warsaw, Poland—The Robert Saenger Pabjanicke Fabryka Papieru, Warsaw, is concluding negotiations for the acquisition of Steinhagen Wehr & Company, the purchase to include three paper mills and one cellulose plant. The acquiring company is reported planning an expansion program and will increase its capitalization to 40,000,000 zlotys, about $4,400,000, United States currency.

New Companies, Etc.

Miamisburg, Ohio—The Art Paper Box Company has been incorporated with a capital of 200 shares of stock, no par value, to operate a local plant for the manufacture of folding paper boxes and containers. The incorporators are John B. McClary, Joseph Yanow and John G. Romer, 505 American Building, Dayton, Ohio. The last noted represents the company.

Toledo, Ohio—The Embossing Matrix Device Manufacturing Company has been incorporated with a capital of 250 shares of stock, no par value, to manufacture paper matrix specialties. The incorporators are William F. Kieper, Charles W. Schwartz and Robert F. Bartley, 628 Nicholas Building, Toledo. Last noted is company representative.

New York, N. Y.—The Kind Filing Supplies Corporation has been incorporated with a capital of $100,000, to manufacture and deal in paper filing devices and products. The company is represented by Schlesinger & Krinsky, 299 Broadway, New York, attorneys.

Philadelphia, Pa.—The Griffith Paper Sales Company has filed notice of organization to deal in paper goods, with headquarters at 5356 Chew street. The company is headed by Charles E. Griffith, Jr., Hatboro, Pa.

Cincinnati, Ohio—The Wall Paper Economy Company has been chartered with a capital of $12,000, to deal in wall papers, etc. The incorporators are L. G. Strauss and Raymond J. Wilson, 713 Owynne Building, Cincinnati. Last noted is representative.

Tomahawk Kraft Paper Co. is Prospering Nicely

The placing of the affairs of the Tomahawk Pulp and Paper Company in the hands of a receiver has brought confusion to many persons residing in Wausau and the Wisconsin River Valley, according to reports received, because of failure of many readers to differentiate between the defaulting company and the Tomahawk Kraft Paper Company, says the *Record-Herald*, of Wausau, Wis.

The Tomahawk Kraft Paper Company, which numbers among its directors a group of prominent Wausau business men, has no connection whatever with the smaller Tomahawk Paper and Pulp Company. None of the Wausau business men are connected with the latter company, and the only connection is that the Wisconsin Valley Trust Company of Wausau has been appointed receiver for the defaulting company, and A. L. Kreutzer, president of the trust company, is attempting to straighten out its affairs.

The Tomahawk Kraft Paper Company is a prosperous concern and its stocks, common and preferred, are rated high in the financial world.

Boston Paper Trade Happenings

BOSTON, Mass., May 26, 1930.—Percy D. Wells, dealer in fine paper at 58 Pearl street, says that so far this year he has had a larger volume of business than during the corresponding period in 1929. Mr. Wells is handling exclusively in New England a new line, Airway Bond, a rag content, cockle finish, tub-sized, air-dried paper, made in Holyoke, Mass.

G. T. Bailey, manager of the printing department of Yale University Press, discussed the processes of book-making at a sales-meeting of Carter Rice & Co. Corp., held at the office of the company at eight o'clock Saturday morning. Mr. Bailey was introduced by Charles A. Esty, managing director of the company. Frank H. Winter, sales manager, presided. The points discussed covered sizes, imposition, grain direction, type of illustration to be used, and adaptability of the text matter. Mr. Bailey stressed particularly grain direction of paper and showed several specimens of right and wrong binding.

Joseph Holmes, treasurer of the Crocker-McElwain Company, Holyoke, Mass., was here last week calling on the trade and visiting his father, who has been seriously ill at his residence in Arlington, Mass.

Spencer Holden, representative of the Associate Mills, Holyoke, is recovering from a serious accident sustained in a taxicab in March. Mr. Holden is now in Northfield, Mass.

Gordon Blanchard, sales manager for Crocker-McElwain Company, called on the Boston distributors of this company's lines last week.

Karl Ways, salesman for the Brown Company, Berlin, N. H., has taken a similar position with the Nashua River Paper Company, East Pepperell, Mass.

Franklin Dorset, of the Albemarle Paper Manufacturing Company, Richmond, Va., and Rolland H. Spaulding, of the Spaulding Fibre Company, Rochester, Milton, and Hayes, N. H., also of the Tonawanda Paper Company, North Tonawanda, N. Y., called on the trade last week.

A. W. Blackman, vice president, Wrapping Paper Division, National Paper Trade Association of the United States, has gone on a two weeks trip through the Middle West in connection with association work.

Lt. Col. Walter M. Pratt, of the Pratt Paper Company, was elected president of the Military Intelligence Association of the First Corps Area at the annual session at the Algonquin Club Thursday evening.

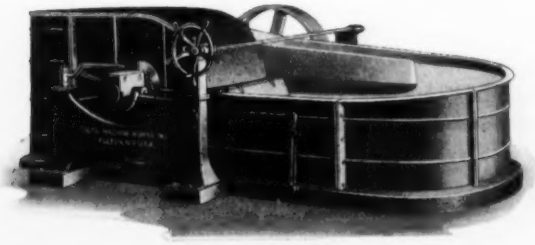
H. C. Davis, president of the Davis Paper Company, West Hopkinton, N. H., recently returned from Winter Haven, Fla., to Contoocook, N. H.

Charles Ray, president and treasurer of the Rogers Paper Manufacturing Company, South Manchester, Conn., has bought the Southworth Mills, Stoughton, Mass. This plant was formerly the Stoughton Mills, carders and carbonizers of wool waste and woolen rags.

Due to difficulties in selling waste paper to dealers, Boston collectors have applied to Police Commissioner Hultman for a license to form a corporation. They plan to make provision for storage or disposal of waste paper which they are obliged to take from housewives whatever its value. If they do not take the waste paper housewives decline to sell other material desired by collectors. The collectors' committee was composed of David Feldman, Samuel Freeman, Abraham Karrell, Joseph Bromberg and Morris Weiner.

Michigan Superintendents Meet

KALAMAZOO, Mich., May 26, 1930.—W. A. Sooy, secretary of the Michigan Carton Company, Battle Creek, spoke on "Humidity" at the Thursday evening dinner meeting of the Michigan Division of the American Pulp and Paper Mill Superintendents Association. The meeting was held at the Columbia hotel and attracted a good attendance of the trade.

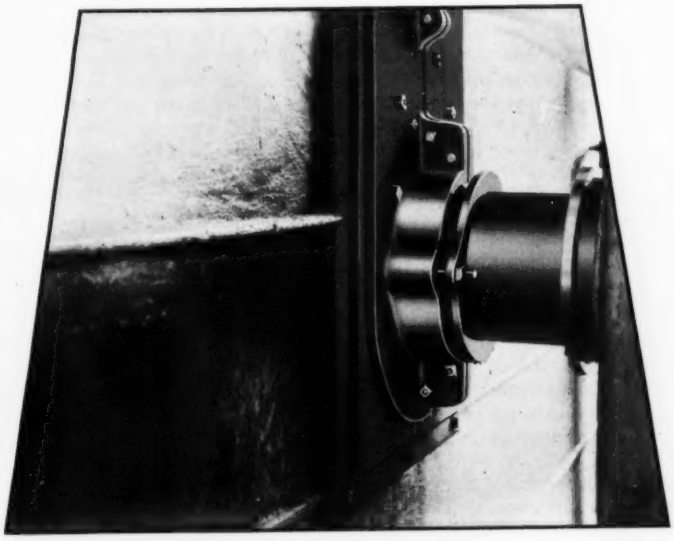


- WHY -

DILTS NEW TYPE BEATING ENGINES

mix more thoroughly, do their work faster and more economically than others.

This is the eighth of a series of advertisements picturing some of the reasons—features, in design and construction—which make Dilts New Type Beating Engines most suitable for your Beater Room requirements. . . *Ask for additional data.*



For submerged spindles a tight Packing Box is needed. The Dilts is simple, with roomy Packing Box and take-up gland on the revolving spindle. The slide and ways for vertical adjustment are machined. The assembly is substantially built, readily accessible and adjustable against leak at any point.

DILTS MACHINE WORKS INC.
FULTON, N. Y.

"Your Paper Is Made In Your Beaters"

POWER PLANT SECTION

REDUCING POWER COSTS THROUGH UNIT TREATMENT

Conducted by **Reginald Trautschold Consulting Engineer**

Coal Handling Systems

Storage and Reclamation

The economical handling of the vast amount of coal consumed by the pulp and paper mills, totaling now to well over 20,000,000 tons annually at the 1,460 plants in the United States and Canada, is a consideration, naturally, of much concern. The saving of a dollar a ton in coal handling charges means a reduction in the cost of mill product of from 50 to 75 cents per ton in almost every case and frequently much more. Reducing coal handling expenses by a dollar a ton, furthermore, is no fantastic achievement to be realized only in very exceptional cases, for the charge includes every item of expense from the moment the coal arrives at the mill plant until it goes into the furnaces; includes, in short, the expenses of unloading cars and barges, of storage, reclamation, fuel preparation, distribution and actual cost of coal firing.

Coal being an indispensable supply, moreover, is customarily purchased in large consignments, both to secure advantageous rates and to insure at all times an adequate reserve, and many mills are so situated that very large fuel storage facilities are essential, the coal piles rivaling in extent the wood pile. The season during which the coal can be received at the plant may be quite brief, for one reason or another, and even where such handicap may not be so apparent there is commonly need for large scale coal storage and subsequent coal reclamation in conformity with the plant's daily fuel requirements. In relatively few instances is a large mill so situated that the boiler house bunkers are of adequate capacity and coal receipts so frequent and regular that the temporary storage of coal at the mill plant can be dispensed with entirely. The coal supply of the average mill, consequently, may have to be handled two or three times between the point of its receipt and the boilers.

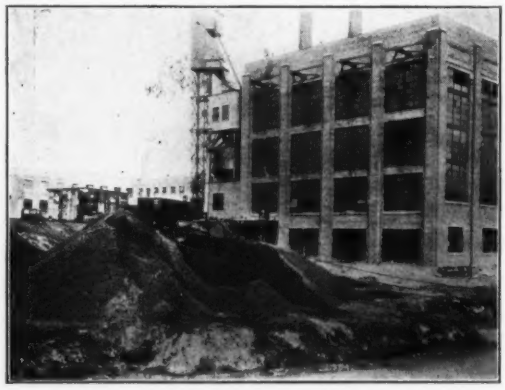
The materials handling problem entailed is rarely the same in any two plants and the most suitable system of conveyors and elevators to employ is very apt to differ in almost every instance. However, materials handling equipment is now highly developed and pretty well standardized, so it is quite feasible for any mill familiar with systems of demonstrated economy to make a wise selection in respect to the more essential equipment and to plan a coal handling system which should prove a potent money saver and a profitable investment. The first requisite is familiarity with systems which have demonstrated their value in reducing coal handling expenses.

Scraper Drag Line and Skip-Hoist

An installation of coal handling equipment reflecting modern ideas in respect to coal handling, storage and reclamation is the system serving the centralized boiler plant of the Paul A. Sorg Paper Company at Middletown, O., which provides the steam supply for the power and process requirements of the W. B. Oglesby Paper Company and the Frank Smith Paper Company, as well as of the Paul A. Sorg Paper Company. Despite the fact that the plant is situated in a locality where coal is obtainable pretty well throughout the year, 5,000 to 10,000 tons of coal are kept on hand, a supply adequate for from 6 weeks to 3 months of normal mill activities, about 120 tons of coal being consumed on the average every 24 hours at the present time. Proposed expansion of the boiler plant will increase fuel requirements some 50 per cent, but the coal handling system has been planned with such growth in view.

Coal is received in hopper-bottom gondolas which discharge into a commodious track hopper located near one corner of the boiler plant, which receptacle is provided with an automatic loading gate for charging the bucket of an automatic skip-hoist. This elevating rig, which has a capacity of 50 tons per hour, raises the coal to a point well above a 100-ton cylindrical storage bin and either supplies coal to a crusher, by means of a reciprocating feeder at the top of the skip-hoist tower, the crushed coal entering the storage bin, or else chutes it, by by-passing the reciprocating feeder and crusher, to an initial storage pile on the ground near the crushed coal storage bin. The crushed coal is taken from the storage bin by a 2-ton larry car and distributed to the various pulverizer hoppers in the boiler plant, while the coal discharged to the ground is placed in storage by means of a flexible drag scraper by which it is also later reclaimed.

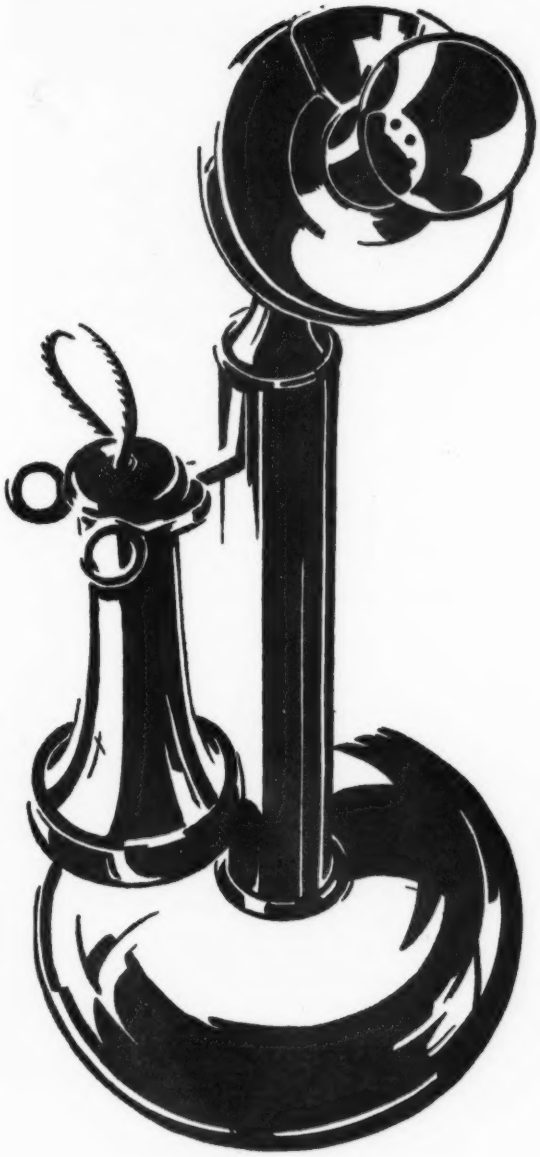
The drag scraper stores and reclaims over an area of an



Courtesy: Sauerman Bros.

FIG. 1.

Coal handling system at the Paul A. Sorg Paper Co. centralized boiler plant, Showing skip-hoist and part of scraper drag line.



Call in a Specialist

Methods and machinery change. New problems come up year by year in the paper industry and specialists in all departments are solving them. But there is one item that is all too often neglected. Plant lubrication is important and the developments in this field have more than kept pace with changes in the industry.

The cost of lubricants is a relatively small item. It doesn't make a great deal of difference whether you pay more or less per gallon or per pound—but the influence of effective lubrication, on power costs, labor and repairs, is substantial.

The Texas Company since its inception has been a leader in the study of lubrication. Its engineers have a vast fund of facts and experience. They are specialists in lubrication engineering, versed in all its phases. This knowledge is valuable—and it is freely available to paper mill executives on request. You are invited to write The Texas Company at any time on any question of lubrication.

TEXACO

THE TEXAS COMPANY
135 East 42nd Street, New York City

LUBRICANTS

acre, the drag reaching out some 350 feet from the headpost and embracing an arc of 40-degrees. In storing, a 1-cubic yard scraper takes the coal from the initial storage pile to which it is discharged by the skip-hoist rig and distributes it over this storage area. In reclaiming, the coal is dragged back to an auxiliary hopper near the headpost by the scraper and from such hopper is delivered to the skip-hoist for elevation to the reciprocating feeder and crusher charging the crushed coal storage bin.

The entire coal handling system, from the receipt of the coal to supplying the storage bin with crushed coal is operated by one man on one shift. This individual unloads all the coal, operates the conveying system for delivering the coal to the storage bin, including the handling of the coal reclaimed from yard storage, and the placing of coal into yard storage. In addition, he takes care of all maintenance on the entire system. So far as the labor charge for operation and maintenance of the coal storage and reclamation system is concerned, then, the burden is a matter of about 5 cents a ton handled and the fixed charges entailed for the scraper drag line installation, representing a total investment for equipment and erection of about $6,500.00, amount to only about half as much.

Belt Conveyor Charged by Drag Scraper

Another coal handling system in which a drag scraper is employed for coal storage and reclamation under unusually severe handicaps in service at the large pulp mill of Hackman & Company in ice-bound Finland. A full year's supply of fuel has to be brought from England and stored in less than a month's time and reclaimed throughout the year for the day-to-day requirements of the boiler plant. About 22,000 tons of coal are required per year and have to be put into storage at the rate of 1,000 tons in sixteen hours, the other eight hours of the day being employed reclaiming coal to the boiler plant.

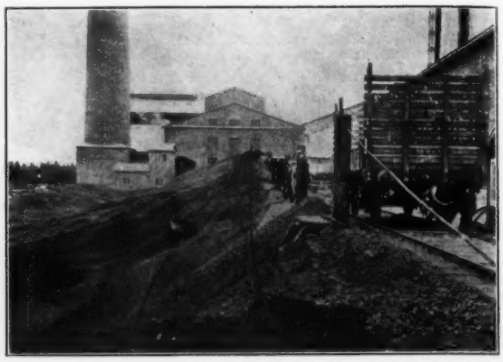
The coal is brought up to the plant from the British ships, which arrive only in June and September, when they can carry back return cargoes of lumber, in peculiarly shaped cars and is discharged by a car dumper onto a pile at the side of the track. From this pile, a scraper drag line system distributes the coal over an area of somewhat more than an acre, a 1-½ cubic yard scraper, which can handle over the average haul on this installation about 70 tons of coal an hour, being employed. The reclaiming point is situated at the far end of the coal yard, where a ramp leads to a small storage hopper from which a belt conveyor carries the fuel into the boiler plant. In reclaiming, the drag scraper takes the coal up the ramp and charges the conveyor storage hopper.

This is also a one man system, the operator standing in a cab at the top of a small building housing the power unit operating the system. From his elevated position, he can see the whole storage yard and he controls all operations by a series of levers banked in a quadrant. The installation is reputed to be very efficient and a highly satisfactory method of handling the coal storage and reclamation under the unusual conditions pertaining.

Courtesy: Sauerman Bros.

FIG. 2.

Close-up of scraper bucket reclaiming coal at the Paul A. Sorg Paper Co. plant.



Courtesy: Sauerman Bros.

FIG. 3.

Storing year-round fuel supply for the Finnish pulp mill of Hackman & Co.

Ruggedness and Reliability Essential

The ruggedness and reliability of these two systems of coal handling are marked and these are essential characteristics if such mechanical equipment is to prove satisfactory in exacting pulp and paper mill services, particularly as many of the mills are located in sparsely settled sections and far removed from sources of machinery supply and service. In fact, demonstrated dependability of both equipment and service must command careful consideration on the part of the paper making industry and in this connection service records should be of especial concern. It should be of interest, then, to cite a few statistics regarding maintenance and upkeep expenses in some recorded instances.

For example, at the Cherry River Paper Company, Richwood, W. Va., the coal handling system at which plant was discussed in these columns December 20, 1928, the Chief Engineer of the mills has recently made known his operating figures for the past four years, the installation being somewhat older, having been put in service during 1922. While these figures are somewhat incomplete and include certain ash handling expense items as well as those charges pertaining strictly to coal handling operations and do not take into account fixed charges or all labor expense items properly chargeable to the operation of the system, they are clearly indicative of the extremely low operating and maintenance costs of rugged, dependable systems of skip-hoist rigs and cable drag scrapers operating in conjunction with a coal larry distribution system.

ANNUAL OPERATING FIGURES—CHERRY RIVER PAPER COMPANY

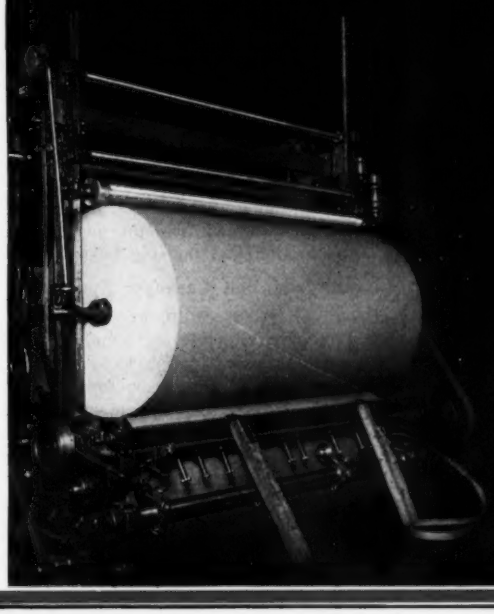
Coal Handling System	1926	1927	1928	1929
Days in operation	308	310	310	?
Tons of coal burned	48,464	50,245	55,245	61,561
Approx. tons of ash produced	7,300	7,500	8,300	9,300
Total supplies and repairs	$ 57.05	$143.68	$474.08	$476.56
Labor of inspection and repair	119.20	144.22	125.08	180.36
Maintenance cost per ton	0.003	0.005	0.011	0.009
Total power charge	353.78	366.78	403.14	449.40
Power cost per ton	0.0063	0.0063	0.0063	0.0064

R. H. Beaumont Co.

An interesting side light on these figures is the marked uniformity in power costs. The charges for supplies and repair items, however, as would be expected, show a decided upward trend as the system has aged, but as yet these expenses form such a trivial part of the total operating costs that they can very well be overlooked until such time as any serious interruption may occur in the operation of the coal handling system.

At the River Raisin Paper Company, Monroe, Mich., where a skip-hoist rig, feeding centrally located bunkers with crushed coal, and weigh larries for charging the individual unit pulverizer hoppers with such broken down coal constitute the main coal handling equipment, it is reported that the first set of skip-hoist cables handled 171,000 tons of coal in twenty-two months with-

LANGSTON slitters



TWENTY years from now the 1930 Langston Slitters will be operating economically for their owners. Just as today, Langston Slitters built in 1910—and some even older—are turning out clean, even, firmly wound rolls. Intelligently built, sturdily built, of superior materials—Langston Slitters are ready to produce 1930 profits for you. And they will be doing the same thing in 1950.

SAMUEL M. LANGSTON COMPANY
CAMDEN, NEW JERSEY

shear-cut clean-cut

out giving any evidence of appreciable wear. They were replaced after rendering such dependable service, but only as a precautionary measure.

A comparable report regarding the low operating and upkeep costs of a coal handling system in which the elevation of the coal for distribution to overhead coal bunkers is effected by a skip-hoist rig comes from the manager of the Ste. Anne Paper Company, Ltd., Beaupré, Que. He states ,after nearly two years of system service, that the labor and power operating costs have averaged ¾ cent per ton of coal handled and that maintenance expenses have been negligible.

This plant burns pulverized bituminous coal and great care is exercised in the preparation of the fuel. The coal, run-of-mine, is received by rail and discharged into a commodious track hopper. An automatic skip-hoist takes the coal direct to the top of the boiler building where a crusher house is located. From the receiving hopper to which the skip discharges, a reciprocating feeder delivers the coal to the crusher and as the coal is broken down it passes over a belt type magnetic separator before it enters what is termed an equalizing hopper, preparatory to distribution by tram car to the storage bunkers of the plant. The equalization, or balance, of operating activity between the skip-hoist, crusher and tram car distribution is ingenious and well planned. As the skip bucket is discharging a load of run-of-mine coal to the crusher, the tram car takes on a substantially equal load of crushed coal from the equalizing hopper, so providing space for the accommodation of the incoming skip-load of coal when it has passed through the crusher and over the magnetic separator. While the skip is descending for another load, being charged and returning to the crusher house, the tram car takes its load of crushed coal, distributes it to bunker storage and returns to the equalizing hopper ready to repeat the cycle. The accurate timing of these various operations on the part of the skip-hoist and distributing tram car makes any attendant in the crusher house unnecessary, for if anything should occur to cause a clog an overflow switch in the hopper to which the skip discharges automatically stops the skip-hoist.

Courtesy: Stephens-Adamson Mfg. Co.

FIG. 5.

Ascertaining the weight of coal in distributing larry at the Canadian Paperboard Co.

Courtesy: Stephens-Adamson Mfg. Co.

FIG. 4.

View of belt conveyor and distributing, hand propelled tripper at the Canadian Paperboard Co.'s mill at Toronto, Ont.

Bucket Elevator and Belt Conveyor System

While these coal handling systems, with the exception of that at the Finnish pulp mill, have all employed skip-hoists for the actual operation of elevating the coal preparatory to its distribution to storage, the conclusion should not be formed that such devices are the only type of elevating equipment suitable for such service. Bucket elevators, for example, are highly approved for such work by many mills and there are numerous instances where efficient and economical coal handling systems are built around such equipment, with belt conveyors or other materials handling apparatus for distributing the coal to storage. Any such arrangement may be an excellent combination, particularly where space is limted or where the investment entailed is of dominating consideration. A noteworthy system of this character, to mention one of the installations made within the past year or two, is at the Canadian Paperboard Company mill at Toronto, Ont.

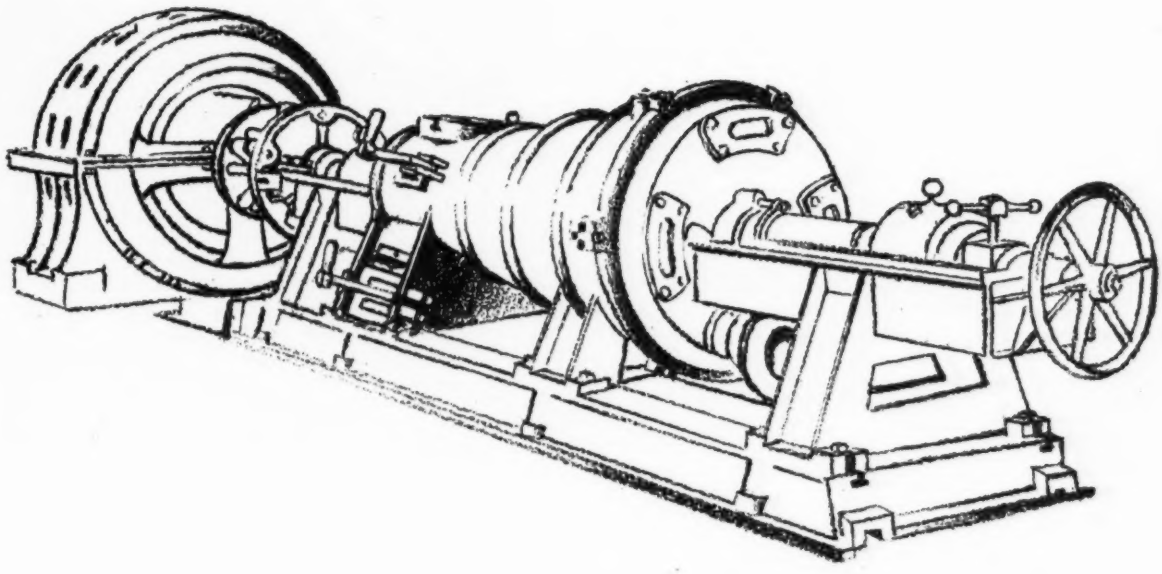
The coal, which is received at this plant either by rail or water, is discharged to a roomy track hopper, direct if received by rail or from trucks if the coal comes by boat, from which it is withdrawn by an inclined apron conveyor and delivered to the boot of a vertical bucket elevator. The elevator raises the coal some 50 feet and delivers it to the end of a horizontal belt conveyor leading to and over the plant's coal bunkers of approximately 150 tons capacity. From such overhead storage, to which the fuel is distributed by means of a hand propelled tripper operating over the section of belt conveyor spanning the coal bunkers, a 3,000-pound (capacity) weigh larry takes the coal from any one of four discharge gates and charges the forced draft, chain grate, stoker hoppers serving the 300-pound pressure, water-tube boilers supplying the steam needs of the mill.

The coal handling system as described has at present a capacity of some 40 tons per hour, but this can easily and safely be increased to 60 or 80 tons an hour by simply speeding up the materials handling equipment. In addition, there is also an exceedingly interesting ash handling system serving this plant which will be discussed in these columns when again taking up the somewhat similar, but unrelated, question of ash handling.

Systems for Small and Medium Size Power Plants

While this system has no great capacity, making it well adaptable for serving the needs of the smaller size plant, there has also been considerable other development during recent years along similar lines, *i.e.*, in devising economical coal handling systems suitable for the scores of small and medium size power plants.

ACCURATE CONTROL OF STOCK AND POWER



Papermakers are now installing jordans that permit *accurate* control of stock and power. Designed and built by Emerson, they improve the uniformity and quality of stock, increase tonnage and lower operating costs. Made in 4 sizes, write for complete information.

The EMERSON MANUFACTURING COMPANY
Lawrence, - - - Massachusetts
Division of John W. Bolton & Sons, Inc.

3998

which have heretofore handled their coal by hand and which have no facilities for adequate bunker storage. One of the most adaptable of these systems employs a somewhat special form of silo for storage and a simple bucket elevator provides the essential, main coal handling mechanism.

When the coal supply is received, as is more general, by rail, the coal cars are dumped over a track hopper and the coal is automatically fed to a bucket elevator which discharges into the top of the silo. In the upper section of the silo is a live storage bin of suitable capacity for the more immediate fuel needs of the plant, concentrically located and of smaller diameter than the silo. The coal delivered by the elevator first fills this bin, providing the working coal supply, and then overflows to the body of the silo below, providing the reserve storage. As the live storage bin coal supply is depleted by the withdrawal of coal for the plant's operation, it is replenished from the reserve coal storage by tapping that supply by opening a gate at the bottom of the silo and allowing the stored coal to flow to the elevator boot by gravity. The elevator then raises the coal and refills the live storage bin in the upper section of the silo.

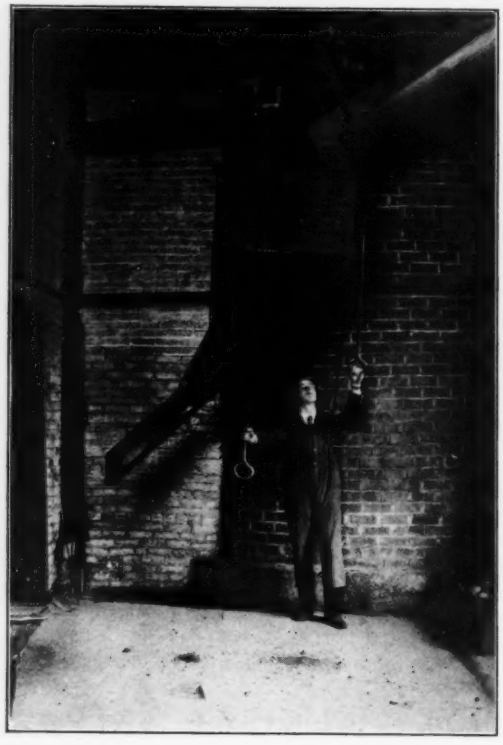
In the medium sized plant operating several boiler units, some means is required to distribute the coal from the live storage bin to the various stokers and a traveling larry is usually employed, though an arrangement of chutes from the live storage bin to the individual grates may sometimes be feasible. In any case, the coal is fed to the boilers by gravity and if a larry is used the charges to the individual boilers can be accurately weighed and recorded.

There are, of course, almost countless modifications in arrangement and details possible with such a system. The main receiving coal hopper may have to be situated some distance from the silo, necessitating the addition of a conveyor to transport the coal from the hopper to the elevator. Height of lift can sometimes be reduced by installing a short screw conveyor at the top of the silo. If one silo of reasonable size does not provide adequate storage capacity, several may be employed at no great expense with suitable equipment for charging them. In fact, there are almost as many arrangements of this particular silo system as there are installations, but the fundamental layout is much the same. The coal is unloaded, stored, reclaimed and delivered to the stoker hoppers or grates without manual labor. The system is eminently suitable for practically every small and medium size plant and is economical to install. It is simple and operation, labor and upkeep costs are low. Of all types of mechanical coal handling systems, the system is probably the easiest to adapt to power plants already in operation which lack provisions for adequate bunker storage.

In one typical case where such a system replaced handling the coal by hand, costs were reduced from 32 cents per ton, when distributing the fuel manually, to 3.8 cents, including power, labor and the more obvious of upkeep expenses. At another plant, after operating such a system for a year and handling an average of 1,000 tons of coal per month, the management reports: "The operation cost for current was approximately 1 cent per ton with current at 5 cents per kwh. We are receiving 2-inch lignite in hopper-bottom gondolas and are handling it mechanically from cars to boilers. If handled by hand, considering the tonnage, the operation would be very costly."

Anti-Friction Bearings for Conveyors

A word might also be well said in closing regarding the advisability of equipping materials handling devices, particularly conveyors, with anti-friction bearings, for the question frequently arises in the minds of mill men as to whether such refinements actually pay. Admittedly, ball and roller bearings reduce friction losses and conserve power, plain bearing friction frequently being reduced several hundred per cent., but rarely does the



Courtesy: Stephens-Adamson Mfg. Co.

FIG. 6a.

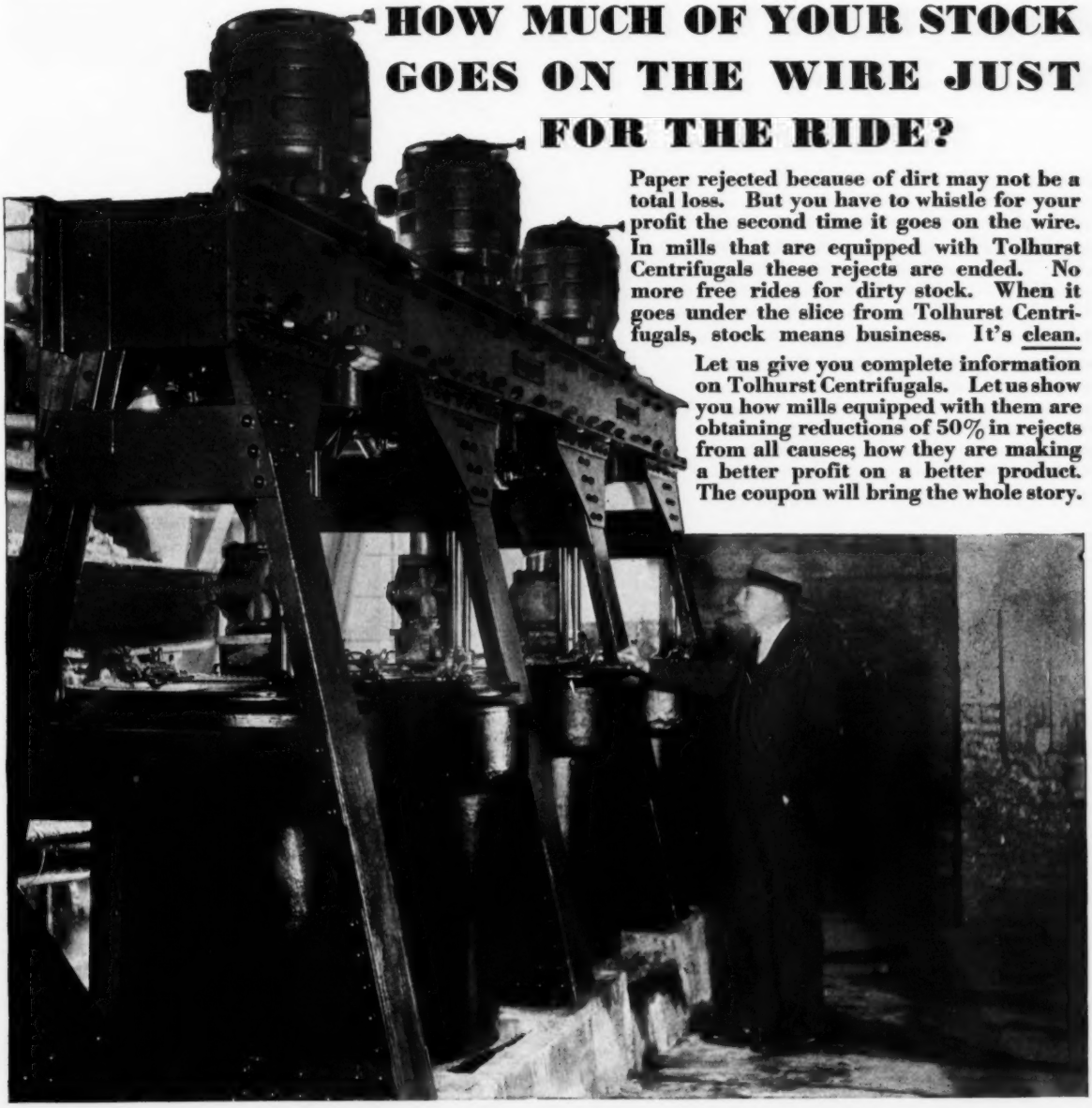
Taking coal from silo live storage bin for distribution to stoker hoppers by monorail larry.

Courtesy: Stephens-Adamson Mfg. Co.

FIG. 6b.

Charging stoker hoppers with 3,000-pound monorail weigh larry.

HOW MUCH OF YOUR STOCK GOES ON THE WIRE JUST FOR THE RIDE?



Paper rejected because of dirt may not be a total loss. But you have to whistle for your profit the second time it goes on the wire. In mills that are equipped with Tolhurst Centrifugals these rejects are ended. No more free rides for dirty stock. When it goes under the slice from Tolhurst Centrifugals, stock means business. It's clean.

Let us give you complete information on Tolhurst Centrifugals. Let us show you how mills equipped with them are obtaining reductions of 50% in rejects from all causes; how they are making a better profit on a better product. The coupon will bring the whole story.

Tolhurst Paper Centrifugals are manufactured under license from the Centrifugal Engineering & Patents Corp., owners of the Erkensator patents.

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expense item for power constitute any substantial proportion of coal handling costs. Furthermore, with electric motors almost universally used as the driving units for the materials handling equipment with the really quite limited power requirements of the latter, it is rarely possible to balance exactly the most efficient motor load with the power requirements of the driven equipment, so almost unavoidably sacrificing a certain amount of motor efficiency. Conservation of power alone by the application of anti-friction bearings, consequently, represents no very important economy so far as the ordinary run of coal handling conveyors for power house service is concerned, but other advantages and benefits of anti-friction bearings for conveyors, and they are important, are most certainly potent money savers.

In the first place, the initial cost of anti-friction bearings, compared with that of properly designed and proportion plain bearings, is rarely in excess and frequently less, owing to the decreased load on the equipment. In addition, lubrication costs become negligible and maintenance expenses are practically eliminated. Conveyor life is preserved and extended, while power consumption is kept at a minimum for the existing conditions, with the result that the operation costs of coal handling systems so favored are invariably materially reduced.

May Investigate Union Bag

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., May 26, 1930.—Stockholders of the Union Bag and Paper Corporation in this vicinity have received letters outlining the future plans of the Stockholders Protective Committee which proposes a thorough investigation of the affairs of the concern. The committee also proposes to suggest a plan for placing the company on an earning basis. The company recently disposed of its hydro-electric power plants to the Niagara Hudson Power Corporation in an effort to solve its financial troubles and the stockholders are understood to feel that an investigation is necessary.

In the letter signed by Charles Tilman, secretary, it was stated that a reorganization committee has been formed to protect the interests of stockholders in the company primarily for the purpose of investigating its affairs. It also claims that a skillful reorganization of the firm would undoubtedly develop valuable rights to stockholders as it would tend to materialize the real value behind the present shares now selling far below book value. Further on it says that the committee has been fortunate in securing the services of an industrial engineer who not only has specialized in the paper industry but is also familiar with the affairs of the corporation. It concludes by asking the approval of stockholders inasmuch as it is believed that the situation calls for a definite and drastic rehabilitation program.

Survey Keystone Chemical Co.'s Assets

[FROM OUR REGULAR CORRESPONDENT]

GLENFIELD, N. Y., May 26, 1930.—A survey of the property of the Keystone Chemical Wood and Lumber Company by engineers has just been completed showing over 125,000,000 feet of choice hardwood and 500,000 cords of pulpwood in the large tract owned by the firm. In addition to this the assets comprise many miles of railway, a mill with a normal capacity of 25,000,000 feet of lumber annually and a large chemical plant with modern equipment. The firm is now undergoing liquidation proceedings and its holdings here were recently placed on the market.

Japanese Paper Production

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 14, 1930.—The Japanese Paper Manufacturers Association reports an output of 56,250 short tons by the mills of the association during the month of February, compared with 56,878 tons during the preceding month, and 57,670 tons during the corresponding month in 1929.

W. B. Bullock Discusses New Tariff Bill

"The paper industry can be proud of a unique record in the tariff fight which has been waged for a year and a half in Congress," said Warren B. Bullock, Manager of the Import Committee of the American Paper Industry in a talk before the New York Division of the Salesmen's Association of the Paper Industry at the Fraternities Club, Monday, May 26.

"The paper industry has come through this long battle with no occasion for an investigation of any activities of a lobbying type, with no serious debate over the nature of the tariff changes desired, and with a reasonable increase in those items where experience has shown that the existing law failed to give the domestic paper manufacturer an equal chance with the foreigner for the American market.

"There are about 170 items in the paper schedule. Changes were made in less than thirty, and few of these involved a high percentage of increase. The principal changes have been changes of phraseology to eliminate ambiguities in the existing law, and to close loopholes through which importers could escape the intent of the law.

"When it became evident that Congress was to undertake a revision of the tariff, the paper industry studied the situation carefully, and laid its plans with deliberation. It was decided to ask no changes except those which facts would show were entirely justified. When changes were asked, it was the policy to seek only such rates as would balance foreign with American prices.

"The result of this policy was that in this long bitter battle the paper industry has emerged with no disagreeable publicity, no charges of lobbying, no serious battles on the floor of either house of Congress. It was early recognized that the paper industry was seeking only the making of scientifically equitable rates, and many leaders in Congress were exceedingly complimentary in their comments on this policy.

"We of the Import Committee are proud that in our five years of service in the field of enforcing existing laws we had accumulated much data which was of value to the industry in the analysis of proposed changes. No other American industry had such a fact finding organization, and to its existence, combined with a sane policy of the manufacturers is due the measure of success attained in the battle which now seems to be nearing its end."

Paper Expansion on Pacific Coast

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., May 24, 1930.—The growth of the pulp and paper industry on the west coast was discussed by Whitney C. Morden, development expert, at a meeting of the Portland Shipping club, May 19, with members of the Portland Transportation club and Portland Industrial Traffic club present as guests. The speaker said that there was a 98 per cent increase in the capacity of paper mills in the northwest from 1923 to 1929 and a 122 per cent increase in pulp mills. The paper output in 1929 was 1,250,000 tons.

Mr. Morden pointed out that the first paper manufactured in Oregon was at Oregon City in 1866 when a mill using old rags turned out 1500 pounds a day. Two years later the mill was moved to the bank of the Clackamas river and newsprint was produced, the speaker stated, and this was the beginning of the present Crown-Zellerbach corporation.

New Color Card for Paper

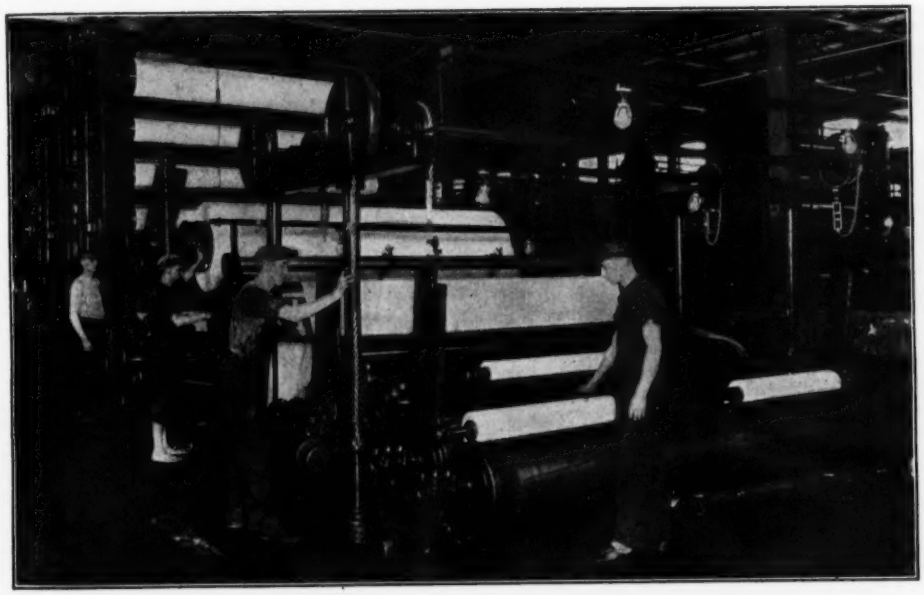
General Dyestuff Corporation, 230 Fifth avenue, New York, has issued another interesting color card, namely, their G. D. C. No. 63, illustrating colors especially adapted for surface coloring paper and paper board.

This new color card illustrates besides the regular sorts of colors for surface coloring also colors of exceptional fastness to light which, no doubt, will prove of particular interest to the manufacturers of colored paper specialties.

"M & W"
Four Drum Winder and Slitter

During the past few years improvements, which are fully covered by Patents, have been made to meet conditions of the modern high speed and up-to-date mills.

Over 1000 In Operation On All Grades of Paper and Board.



"M & W" Four Drum Winder for Book Paper 18" dia. drums 150" face. Photograph taken in mill of Champion Coated Paper Co., Hamilton, O. (This is one of their 14 "M & W" Winders.)

Many mills are replacing their original M. & W. four drum winders having 10-inch diameter drums with M. & W. four drum winders having drums 15¼-inch, 18-inch, 20-inch and 24-inch diameters. These winders are very desirable for wide and fast running machines and large diameter rolls.

The new improved four-drum winder equipped with ball bearings throughout and drums driven independently with separate electric motors is meeting with great success, as is their new type two drum winder.

A recent valuable money-saving improvement on the M. & W. winder is the removable bottom slitter whereby a slitter blade is changed in the same manner as the top blade. Both are equipped with ball bearings.

THE MOORE & WHITE CO., NORTH PHILA. STATION PHILADELPHIA, PA.

PAPER · MACHINE · BUILDERS

PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

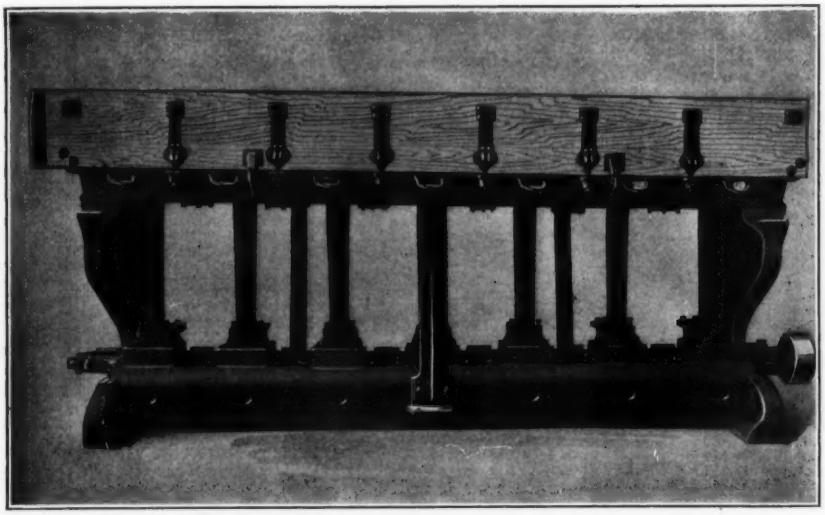
For the Month Ending March 31, and for the Three Months Ending March 31, 1930 as Compared with Corresponding Month of Previous Year

IMPORTS—PAPER

	March				Three Months Ending March 31			
	1929		1930		1929		1930	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
PAPER AND MANUFACTURES	.....	$12,624,738	.....	$12,410,732	.....	$37,786,549	.....	$36,128,493
Printing paper—								
Standard news print ....lbs...free	365,987,168	11,105,480	375,025,691	10,871,190	1,090,412,660	33,450,537	1,080,540,838	31,472,278
Imports from:								
Finland ....lbs.	2,418,739	58,095	8,717,783	200,409	12,494,139	312,617	25,280,909	578,801
Germany ....lbs.	1,388,917	36,717	2,394,880	58,469	3,765,592	96,771	5,493,990	135,968
Norway ....lbs.	291,518	6,701	2,553,404	61,945	3,169,874	80,821	3,978,672	94,792
Sweden ....lbs.	9,840,512	249,121	15,873,220	398,986	26,225,565	674,600	41,395,570	1,038,615
Canada ....lbs.	349,586,072	10,693,311	337,827,343	9,941,371	1,004,874,240	31,174,171	962,671,201	28,433,027
Newfoundland and Labrador ....lbs.	2,461,410	61,535	7,659,061	210,010	39,883,250	1,111,557	41,720,496	1,191,075
All other, n. e. s. ....lbs...dut.	301,121	16,855	333,267	15,884	1,051,936	52,098	630,326	29,619
Greaseproof and waterproof papers....lbs...dut.	141,114	24,162	129,919	48,184	369,649	69,981	464,519	155,754
Kraft wrapping paper ....lbs...dut.	440,952	21,232	861,168	35,311	1,865,119	80,712	2,469,148	101,116
Other wrapping paper ....lbs...dut.	234,968	10,450	203,431	11,714	1,311,802	44,615	598,387	35,727
Writing, letter, drawing, etc., papers..lbs...dut.	236,814	62,655	206,801	54,128	751,688	188,568	931,668	242,888
Surface-coated paper ....lbs...dut.	189,919	84,663	195,957	76,172	595,839	260,586	602,295	228,019
Tissue, copying, etc., papers....lbs...dut.	333,403	186,212	441,377	189,190	950,268	502,607	1,182,479	590,837
Paper boards, n. e. s.—								
Pulp boards in rolls ....lbs...dut.	6,185,991	135,474	4,293,136	100,471	15,564,905	354,371	12,626,631	303,500
Paper boards, pulp board, and card-board ....lbs...dut.	1,196,095	30,412	1,941,135	47,730	5,122,837	121,940	4,844,503	116,380
Leather board, test and wall board..lbs...dut.	87,122	3,486	76,746	4,603	458,680	17,910	382,268	19,474
Cigarette paper, cigarette books, and covers ....lbs...dut.	1,301,288	419,484	1,114,327	398,701	2,987,796	1,006,085	3,135,112	1,103,735
Hanging paper (wall paper) ....lbs...dut.	242,033	79,537	241,327	61,718	861,628	233,634	1,003,079	254,029
Duplex, decalcomania paper, not printed lbs...free	58,001	13,834	32,008	7,390	182,002	42,745	154,156	36,469
Paper boxes ....dut.	.....	115,262	.....	106,920	.....	357,210	.....	340,094
Pulp or paper-maché and manufactures, n. e. s. ....dut.	.....	20,663	.....	29,683	.....	193,687	.....	217,532
All other paper and manufactures....dut.	.....	294,877	.....	351,743	.....	809,263	.....	881,042
WOOD PULP								
Mechanically ground wood pulp....tons..free	14,714	391,551	24,401	714,646	50,482	1,326,378	84,694	2,419,565
Sulphite wood pulp ....tons	55,212	3,118,480	69,794	4,277,363	241,301	14,050,021	291,512	17,002,273
Unbleached ....tons..free	34,328	1,559,789	40,736	2,106,235	163,024	8,206,610	203,890	10,531,813
Bleached ....tons..free	20,884	1,558,691	29,058	2,171,128	78,277	5,843,411	87,622	6,470,460
Imports from:								
Finland ....tons	4,535	163,696	7,328	370,370	22,035	1,018,878	26,421	1,352,104
Germany ....tons	1,394	104,612	9,645	662,669	15,056	1,018,860	23,291	1,583,594
Norway ....tons	3,825	266,172	4,446	293,272	12,886	843,249	16,090	1,074,636
Sweden ....tons	11,806	617,972	12,564	722,921	99,073	5,483,779	120,616	6,542,490
Canada ....tons	31,136	1,845,867	34,582	2,161,246	85,885	5,343,323	101,097	6,240,956
Other countries ....tons	2,516	120,161	1,229	66,885	6,366	341,932	3,997	208,488
Sulphate wood pulp, unbleached (kraft pulp) ....tons..free	19,674	1,123,455	20,098	1,052,663	70,768	3,953,310	108,334	5,484,080
Imports from:								
Finland ....tons	814	41,652	5,116	213,877	5,930	295,168	11,897	537,248
Norway ....tons	954	57,732	847	49,370	2,979	168,965	3,611	180,153
Sweden ....tons	7,900	403,689	5,922	294,707	31,572	1,630,720	69,507	3,357,734
Canada ....tons	9,467	596,197	7,743	473,785	28,286	1,765,528	22,120	1,351,959
Other countries ....tons	539	24,185	470	20,924	2,001	92,929	1,199	56,986
Sulphate wood pulp, bleached....tons..free	498	44,211	734	55,515	3,022	229,303	2,943	239,088
Other pulp ....tons..free	575	41,333	411	30,474	1,481	107,720	985	73,496
CRUDE PAPER STOCK								
Rags for paper stock....lbs...free	26,706,962	554,682	33,066,196	693,327	93,162,102	1,809,257	98,553,531	1,988,553
Waste bagging, waste ....lbs...free	10,765,682	128,068	10,588,052	119,488	33,373,423	399,264	30,242,018	339,062
Old rope and all other paper stock....lbs...free	5,773,711	171,289	12,802,270	209,176	16,781,029	608,341	31,056,956	631,915
CHEMICALS AND OTHER PAPER MAKERS' MATERIALS								
Colors, dyes, stains, color acids, and color bases, n. e. s....lbs...dut.	866,467	1,017,406	598,951	679,138	2,031,377	2,323,178	1,440,309	1,558,824
Imports from:								
Belgium ....lbs.	3,929	4,139	6,356	7,485	8,471	9,625	13,462	14,784
France ....lbs.	7,072	6,556	458	537	28,525	37,066	2,395	4,573
Germany ....lbs.	628,149	726,082	241,635	264,116	1,423,685	1,594,103	819,922	879,620
Italy ....lbs.	.....	.....	.....	.....	1,980	2,104	.....	.....
Switzerland ....lbs.	217,418	270,375	339,849	398,339	531,331	642,855	580,265	636,967
United Kingdom ....lbs.	5,800	5,729	4,807	4,975	17,602	18,354	13,231	13,232
Other countries ....lbs.	4,099	4,475	5,846	3,686	19,783	19,071	11,034	9,648
Casein or lactarene....lbs...dut.	3,400,548	407,417	2,683,273	307,560	9,320,675	1,082,356	7,177,730	871,987
Kaolin, china, and paper clay....tons..dut.	21,366	237,348	22,533	235,520	55,461	604,470	74,415	788,409

(Continued on page 50)

A REPUTATION EARNED BY YEARS OF SERVICE



Certainly now is a time when every penny saved in production counts more than ever before. And wise manufacturers are seeing the real, money-saving advantages of replacing their obsolete, profit-devouring machines with modern, profit-paying equipment.

The Valley Flat Screen has for many years been recognized as a fine screen.

Not for any one reason. But for a multitude of superiorities which . . . . combined together . . . . provide a standard of performance found in no other screen.

To point out these superiorities here would require more space than is available.

But . . . . if you are interested in placing your screening operations on a more profitable basis . . . . it will be well worth your while to write for complete information. Address the Valley Iron Works Co., Appleton, Wisconsin.

VALLEY

Equipment for Paper and Pulp Mills

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PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

(Continued from page 48)

EXPORTS—PAPER

	March 1929 Quantity	March 1929 Value	March 1930 Quantity	March 1930 Value	Three Months Ending March 31 1929 Quantity	Three Months Ending March 31 1929 Value	Three Months Ending March 31 1930 Quantity	Three Months Ending March 31 1930 Value
PAPER AND MANUFACTURES	.....	$3,425,821	.....	$2,860,624	.....	$10,145,048	.....	$8,622,385
Printing paper—								
News print paper ..... lbs.	3,151,773	121,340	1,627,016	78,187	10,100,017	369,626	6,907,686	273,544
Exports to:								
Europe ..... lbs.	131,662	8,293	188,092	12,708	131,662	8,293	654,176	38,163
Canada ..... lbs.	45,691	2,300	8,099	391	148,424	7,733	17,351	763
Central America ..... lbs.	83,084	2,632	174,442	6,019	325,569	11,675	548,370	19,672
Cuba ..... lbs.	280,654	11,103	259,684	8,913	820,881	29,885	888,123	35,383
South America ..... lbs.	1,034,372	40,566	253,892	9,931	3,423,696	124,850	1,934,211	63,262
China, Hong Kong, and Kwantung ... lbs.	618,389	19,714	384,551	25,754	1,787,932	59,594	786,670	40,412
Philippine Islands ..... lbs.	808,405	28,548	286,712	10,830	3,062,067	109,664	1,811,931	62,859
Other countries ..... lbs.	149,516	8,184	71,544	3,641	399,786	17,932	266,854	13,030
Book paper, not coated ..... lbs.	2,598,553	190,704	3,403,557	215,776	10,079,731	717,631	10,366,928	678,482
Exports to:								
Europe ..... lbs.	123,116	16,423	27,099	2,464	740,894	62,403	212,015	19,031
Canada ..... lbs.	880,665	53,611	880,980	51,561	3,086,350	180,503	2,497,735	147,280
Mexico ..... lbs.	51,814	5,446	59,555	5,949	147,379	16,810	206,193	19,999
Cuba ..... lbs.	408,706	27,589	307,759	20,606	1,057,792	74,992	1,181,301	81,732
Argentina ..... lbs.	160,256	12,849	42,106	3,363	798,508	69,496	236,332	16,955
Other South America ..... lbs.	89,624	7,103	172,560	12,602	361,558	32,203	511,573	38,952
China, Hong Kong, and Kwantung ... lbs.	13,440	806	1,157,432	69,965	1,848,965	111,503	3,151,830	191,712
Philippine Islands ..... lbs.	526,532	32,564	487,656	31,515	1,166,933	74,855	1,316,261	85,419
Australia ..... lbs.	166,194	21,696	103,238	6,806	426,898	59,698	260,323	20,398
Other countries ..... lbs.	178,206	12,617	165,172	10,945	444,454	36,168	793,365	57,364
Cover paper ..... lbs.	162,150	28,123	258,522	44,387	510,568	90,537	706,869	113,110
Greaseproof and waterproof paper ..... lbs.	187,754	35,088	260,889	53,685	833,038	136,973	715,018	144,697
Overissue and old newspapers ..... lbs.	13,914,595	158,808	14,526,552	127,323	35,022,476	390,966	36,278,492	329,268
Wrapping paper ..... lbs.	3,662,946	237,450	3,848,278	277,196	11,651,518	789,436	12,939,306	859,949
Surface-coated paper ..... lbs.	1,863,689	157,177	590,589	75,704	5,888,557	527,444	2,270,996	259,392
Tissue and crêpe paper ..... lbs.	384,496	81,049	561,324	96,410	1,161,160	248,156	1,541,123	264,630
Toilet paper ..... lbs.	597,023	69,057	518,247	60,143	1,858,448	212,371	1,908,077	210,172
Paper towels and napkins ..... lbs.	376,792	37,792	289,207	37,839	854,747	99,297	1,034,832	121,698
Box board, paper board, and straw board .. lbs.	2,816,890	80,355	4,049,068	103,654	13,620,638	361,016	16,225,583	405,729
Bristols, and bristol board ..... lbs.	343,859	33,294	209,819	23,654	815,962	78,998	820,850	69,748
Other paper board ..... lbs.	4,195,301	195,005	2,496,777	124,711	11,118,723	514,165	9,737,762	498,380
Sheathing and building paper ..... lbs.	2,121,618	71,395	1,177,624	57,508	5,773,591	206,624	4,174,212	175,654
Fiber insulating lath or board ..... sq. ft.	3,644,887	119,298	4,622,386	153,200	5,785,923	193,102	16,095,647	523,792
Wall board or paper or pulp ..... sq. ft.	6,179,109	221,579	4,368,324	128,181	16,372,581	541,608	8,779,030	272,080
Blotting paper ..... lbs.	334,040	37,232	386,457	44,518	965,495	112,285	912,500	109,002
Filing folders, index cards, and other office forms ..... lbs.	160,259	51,626	161,444	51,711	444,524	157,262	412,855	149,680
Papeteries (fancy writing paper) ..... lbs.	60,133	13,947	61,580	12,208	165,414	38,503	171,172	34,920
Other writing paper ..... lbs.	2,547,235	277,047	1,882,517	199,439	8,2056591	876,905	5,572,406	575,791
Paper hangings (wall paper) ..... rolls	.....	86,520	519,877	75,969	.....	268,714	1,580,326	224,586
Paper bags ..... lbs.	1,111,758	103,057	903,363	70,580	2,972,144	265,268	2,514,249	216,874
Boxes and cartons ..... lbs.	3,311,467	180,574	2,557,718	149,601	8,072,659	488,458	5,909,179	357,809
Envelopes ..... lbs.	260,434	42,864	199,226	33,211	588,779	100,874	596,091	102,267
Vulcanized fiber sheets, strips, rods, and tubes ..... lbs.	658,306	157,840	513,688	121,710	1,814,908	449,715	1,304,187	323,961
Cash-register and adding-machine paper .... lbs.	340,944	35,159	370,901	35,873	1,164,353	114,770	1,112,452	106,844
Other paper and paper products ..... lbs.	.....	602,441	.....	408,246	.....	1,794,344	.....	1,217,326
WOOD PULP AND PAPER STOCK								
Sulphite wood pulp ..... tons	4,031	245,919	1,505	90,688	11,905	652,820	6,059	339,349
Soda wood pulp ..... tons	120	9,818	65	4,985	468	38,122	752	58,915
Other wood pulp ..... tons	698	38,291	380	10,601	1,548	112,854	1,987	81,594
Rags and other paper stock ..... lbs.	11,650,439	302,310	4,898,442	64,325	33,470,678	695,672	17,766,951	263,283
PAPER AND PULP MILL MACHINERY								
Paper and pulp mill machinery	.....	212,697	.....	221,192	.....	673,872	.....	788,106

New Paper Concern Buys Big Lumber Tracts

MACHIAS, Me., May 26, 1930.—One of the largest real estate transfers in the history of Washington County was made recently, when the Machias Lumber Company transferred the majority of its holdings to the Seaboard Company, Inc., of Augusta, which is erecting the immense paper mill at Bucksport.

The property ownership in this transaction is located in Townships 29, 30, 31, 37, 42 and 43, and the towns of Centreville, Northfield, Whitneyville, Wesley and Machias, with a price approximating a million and a quarter dollars.

The lumber company' sawmill at the Harwood dam was included in the sale, but the company reserved the right to use the mill until this season's sawing is completed, and to allow the former owners to fill the outstanding orders.

The Machias Lumber Company is one of the oldest business concerns in this part of the state, and has been the principal corporation in central Washington County. Alfred K. Ames and Frank S. Ames are the principal local owners.

Grand Rapids and Detroit Paper Firms Merge

GRAND RAPIDS, Mich., May 26, 1930.—The Carpenter Paper Company announces the merging of the western Michigan business of the Seaman-Patrick Paper Company of Detroit with the business of the Carpenter Paper Company of this city. L. V. Mulnix, who has had charge of the Seaman-Patrick's Michigan business, and his associates in the Seaman-Patrick Paper Company have purchased the entire interests of E. R. Carpenter in the Carpenter Paper Company and Mr. Mulnix will assume Mr. Carpenter's duties as president and general manager.

The merger will more than double the present business of the Carpenter Paper Company and will allow the company to carry a much larger and more diversified stock in this city at the service of the Grand Rapids printing trade and the nearby cities.

The actual transfer of Mr. Carpenter's holdings to Mr. Mulnix and his associates will not be made until July, at which time Mr. Mulnix, who has purchased a home in East Grand Rapids, will move here and take charge of the business.

Your New Mill . . .

as you want it . . . when you want it

WILL your new mill be ready for occupancy on the date you need it? Will your new mill provide definite production advantages? Will it be built within the expenditure you originally intended?

Austin can help you answer these questions in the affirmative, regardless of where you may be located, or where you intend to build . . . and here is the reason why:

Austin will build from your engineers' plans, or will design, build and equip complete under The Austin Method of Undivided Responsibility, guarantee the construction of a modern plant at a definite cost and within a guaranteed time limit. Under this result-getting plan your complete satisfaction is assured.

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These Companies in Your Industry Know from Experience the Benefits of Austin Service

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American Carton Corp.	Chicago
Angelus Paper Box Co.	Los Angeles
A. P. W. Paper Co.	Albany, N. Y.
Bailey Wall Paper Co.	Cleveland
Bogota Paper & Board Co.	Bogota, N. J.
Reg. N. Boxer Co.	Toronto, Ont.
California-Oregon Paper Mills	Los Angeles
Chase Bag Co.	Buffalo
Chase Bag Co.	Goshen, Ind.
Chase Bag Co.	Toledo, Ohio
Chillicothe Paper Co.	Chillicothe, Ohio
Cleveland-Akron Bag Co.	Boston Mills, Ohio
Columbia River Paper Mills	Vancouver, Wash.
Continental Paper Co.	Bogota, N. J.
Everett Pulp & Paper Co.	Everett, Wash.
Federal Paper Board Co.	Bogota, N. J.
Flintkote Co.	East Rutherford, N. J.
Foster Box Board Co.	Utica, N. Y.
Robert Gair Co.	Piermont, N. Y.
The Hagar Straw Board & Paper Co.	Cedarville, Ohio
Hammermill Paper Co.	Erie, Pa.
Hinde & Dauch Paper Co.	Sandusky, Ohio
Holyoke Gummed Prod. Co.	Holyoke, Mass.
Hygrade Corrugated Paper Products Co.	New York City
Ideal Corrugated Box Co.	Parkersburg, W. Va.
Inland Empire Paper Co.	Millwood, Wash.
The Jaite Company	Jaite, Ohio
Jordan Storage & Distributing Co.	Seattle
P. J. Kress Box Co.	Pittsburgh
Log Supply Co.	Berthierville, Que.
Morgan Wall Paper Co.	Chicago
Northwestern Paper & Pulp Co.	Astoria, Ore.
Oregon Pulp & Paper Co.	Salem, Ore.
Oswegatchi Paper Co.	Gouverneur, N. Y.
Oswego Falls Corp.	Fulton, N. Y.
J. B. Pearce Co.	Cleveland
Peninsular Paper Co.	Ypsilanti, Mich.
Royal & Co.	Bryn Mawr, Pa.
Schumacher Wall Board Corp.	Los Angeles
Schumacher Wall Board Corp.	Seattle
The Simplex Paper Corp.	Palmyra, Mich.
Southern Waxed Paper Co.	Atlanta
Spaulding Pulp & Paper Co.	Newberg, Ore.
Standard Wall Paper Co.	Hudson Falls, N. Y.
Standard Wall Paper Co.	Joliet, Ill.
Union Bag Co.	Vancouver, Wash.
Vancouver Kraft Co., Ltd.	Vancouver, B. C.
Warren Mfg. Co.	Bloomsbury, N. J.
Warren Mfg. Co.	Milford, N. J.
West Carrollton Parchment Co.	Dayton, Ohio
Western Waxed Paper Co.	Los Angeles
The White Tar Co. of N. J.	Kearny, N. J.

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TECHNICAL PAPERS, SERIES XIII

The thirteenth annual series of Technical Association Papers, the official annual publication of the Technical Association of the Pulp and Paper Industry, has just come off the press and has been issued to the members of that growing and useful organization of men who are increasingly controlling the actual manufacturing details of the great pulp and paper industry.

Representing an organization of the type of TAPPI changes each year for the better in this publication are naturally expected and this year such is indeed the case. Technical Association Papers this year exceed 420 pages, the type page being the same size as in previous years and the stock being high grade coated paper, well bound with .025 Bogalusa kraft.

Among the innovations of Series XIII the proceedings of the annual meeting will be found in the front of the book and following the pages of discussion appear the papers which were presented at the meeting in February and which are referred to throughout the discussion pages. Photographic prints of some of the association leaders are appropriately used and a full page is set aside for a photograph of Mr. P. H. Glatfelter, president in 1929, who did much to advance the interests of the organization during the past few years.

The membership roster and the advertising sections are considerably larger than in preceding years, largely by virtue of the establishment of the new class of contributing members, namely, companies that have become intimately identified with the pulp and paper industry by serving it efficiently for many years. The Technical Association is certainly to be commended for its willingness to recognize the effective part played by the more progressive equipment and chemical companies in advancing the manufacturing improvements of the industry.

The Technical Association of the Pulp and Paper Industry is organized for the encouragement of original investigation and research in mill engineering and the chemistry of paper, cellulose and paper making fibers generally; it aims to provide means for the interchange of ideas among its members in order that processes of manufacture may be made more efficient and improved along technical lines. To this end meetings are held for the reading and discussion of papers. In this way the association has contributed much to the factual wealth of the industry.

The PAPER TRADE JOURNAL wish to congratulate TAPPI on this recent addition that it has made to the literature of pulp and paper manufacture. Technical Association Papers is truly becoming the record of manufacturing and technical development of each succeeding year in the pulp and paper industry. It is worthy of a permanent place in the library of every paper mill and deserves the high esteem with which it is regarded.

PAPER DEVELOPMENT IN SOUTH

The Hon. William J. Harris, United States Senator from Georgia who was instrumental in securing a $10,000 increase in the current appropriation for the study of papermaking processes for Georgia and southern pulpwoods by the Forest Service, United States Department of Agriculture, believes that the South has splendid possibilities for a much greater development of its pulp and paper industry.

Ten years ago the South figured in the pulp and paper industry only as a producer of sulphate or kraft pulp, including, however, a wide range in brown wrapping papers, paper bags, container boards, and similar products. The present trend in the South is still toward a considerable enlargement of the kraft pulping processes that will make possible the production of other kinds of paper and that will utilize additional species of southern woods. About three years ago, at the instance of Senator Harris, a special appropriation was granted by congress to the forest service of the United States Department of Agriculture with which to make pulping studies of Georgia and southern woods and particularly to develop, if possible, a strong white pulp from southern yellow pine. This appropriation has been continued since that time with an increase of $10,000 this year.

The remarkable growth of the southern pulping industry has undoubtedly been due to the availability of an abundant supply of cheap wood, together with another favorable factor—the proximity to markets for the pulp. Dr. C. E. Curran, senior chemist of the Forest Products Laboratory, United States Forest service, in a recent article discusses the history and future prospects of the pulping of southern woods. There were 36 establishments in nine southern states having a capacity of 1,000,000 tons per annum in 1929, as compared with establishments producing 362,500 tons of pulp annually in 1921. In addition to the plants existing in 1929 there were extensions to several mills either under construction or definitely planned and frequent announcements by trade organs of the acquisition of sites for new pulping projects that will utilize southern species of wood.

The estimated stand of timber in the southern states is nearly one-third of the total stand in the United States as a whole. But, more important still, the South is capable of producing new stands of wood with great rapidity, fifteen years being sufficient to grow trees of pulpwood size. In 1924 the Southern Forest Experiment Station of the United States Forest Service estimated that one acre of fully stocked land would yield 38½ cords of shortleaf pine per acre in 20 years. The southern forests required little encouragement to "come back." "If you

keep out fire and hogs your woodlands will grow in spite of you," is a common expression in the south. The sum total of all opinion is that the South has an ample supply of pulpwood for present needs and that conditions favor the perpetuation of this supply. Hence there is little apparent reason for a sharp advance in the price of southern pulpwood.

The three-year investigation of the Forest Products Laboratory, under appropriations secured by Senator Harris, has resulted not only in securing a strong white pulp from southern yellow pine, but also in the development of a two stage bleaching process successfully applied to loblolly pine and longleaf pine and possibly applicable to other species. At the same time there have been experiments made in the pulping of southern black gum.

The entrance of the South into the news print field is a possibility in consequence of recent work done at the Forest Products Laboratory in the production of news print from hardwoods. By grinding such hardwoods as aspen, southern black gum, and paper birch, mixing this ground wood with a certain proportion of sulphite pulp from the same hardwood species, and then adding a small amount of long-fibered sulphite for strength purposes, a very satisfactory news print was produced.

The significance of the results so far obtained by the studies authorized by congress, can be summarized as follows: They offer the possibility of a diversification of use of southern woods for pulp. Up to the present, practically all of the yellow pine utilized for pulp has gone into brown wrapping or kraft papers and boards. Comparatively small amounts of the pines have been pulped by the soda process, bleached and used in book papers. The results of the present work offer the opportunity to extend the range of commercial papers for which southern woods are suitable, from the present brown wrapping paper to high-grade writing and bond papers. A strong white pulp from pine can compete directly with bleached sulphite from spruce, hemlock, or fir for such papers as book, magazine, lithograph, writing, light-colored wrappings, drinking cups and similar specialties, and even in glassine papers. All of these products have been produced at the Forest Products Laboratory on an experimental scale. In extending this project both in the current fiscal year and in the future plans include, according to the United States Forest Service, both fundamental and applied studies looking toward the improvement of the conditions of pulping and bleaching the pines so as to diversify still more widely the types of paper in which they may be used. The modified pulping and bleaching processes will be tried out with other species besides loblolly and longleaf, slash being probably the next logical species for study, to be followed by shortleaf and other members of the yellow pine family. A certain amount of investigative work on the grinding of southern gum is also planned to round out previous data and complete experiments. Study of the effect of paper machine variables will be continued in an intensive way. The practicability of the laboratory developments needs confirmation and application on a commercial scale and every effort will be made by laboratory experts to secure such mill trials at the earliest possible time.

The possibilities of research are so varied and far-reaching that speculation upon future developments and their import to the South might be extended almost indefinitely, says the Forest Service. However, enough has been done, in Senator Harris's opinion, with the appropriations he has secured for this purpose, to justify his belief that the pulp and paper industry in the south is on the threshold of a much wider development.

Stabilizing Work To Cut Waste

Stabilization of employment eliminates the waste involved in breaking in new men, protects the purchasing power of the workers and allows a man to work more efficiently when relieved of the fear of losing his job, according to James F. Adams, general manager of the John A. Manning Paper Company, Inc., of Troy, N. Y., in a letter to Governor Roosevelt's Committee on Stabilization of Employment. The committee has been gathering material bearing on successful attempts of companies to regularize employment.

In describing the method adopted by his company, Mr. Adams said that every effort was made to sell its products into industries having a minimum seasonal fluctuation.

"We also attempt to secure forecasts of consumption from our customers and to get whatever guidance is possible from standard indices," said Mr. Adams. "Manufacturing for stock is only practical on a very small scale, as a paper mill can turn out enough products in a few days to fill all of its available warehouse space."

Special methods of solving the stabilization problem, said Mr. Adams, were concerned with factors found only in the paper industry. The speed of paper machines, he declared, is flexible within certain limits. When orders are insufficient to maintain the normal speed reduction of speed is preferable to shut-down because it maintains the skill of operatives, keeps the mill routine unbroken and enables a more intimate study of the manufacturing operations.

To offset the cost of reduced speed the machines are run for short periods, when orders warrant, at higher than normal speed—at a rate which the men could not sustain for a prolonged period, but which, according to Mr. Adams, their enthusiastic cooperation makes practical for a short period.

"During slow periods we carry on experiments in the development of new lines," he continued. "We find it very difficult to make satisfactory experiments when the mill is pushed to get out regular orders."

Attempt is also made to use all the working force in overhauling machinery in dull times, said Mr. Adams. After exhausting these expedients the company resorts to the shorter work week such as the five-day week, distributing the time equally over the entire working force.

Men are encouraged to schedule their vacations for the dull period when possible. The company also pays unemployment insurance not to exceed $72 a year at the rate of $9 a week, but the company has not had to resort to this provision except occasionally; the unemployment insurance is in the nature of a final safeguard.

"We are strongly of the opinion that society must have the final decision as to how the cost of unemployment is to be distributed, and we feel that employers must not carry their own stabilization efforts beyond sound economics," concluded Mr. Adams. "We feel that such steps as we have taken have not increased the cost of manufacture because they have resulted in a highly cooperative working force."

Brownville Paper Co. Resumes

BROWNVILLE, N. Y., May 26, 1930.—The Brownville Paper Company has resumed operations after being shut down about two weeks for repairs. On Wednesday one machine was started up and it was announced that the other equipment would be in full operation soon. The Brownville Board Company also renewed operations early this week after a few days' shutdown for plant repairs. Both concerns are said to have orders on hand which will guarantee steady operating schedules for some time.

STRONG FOUNDATIONS

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By CARL R. MILLER

No. 3 in a series of advertisements describing the position of The Mathieson Alkali Works in the Chemical Industry

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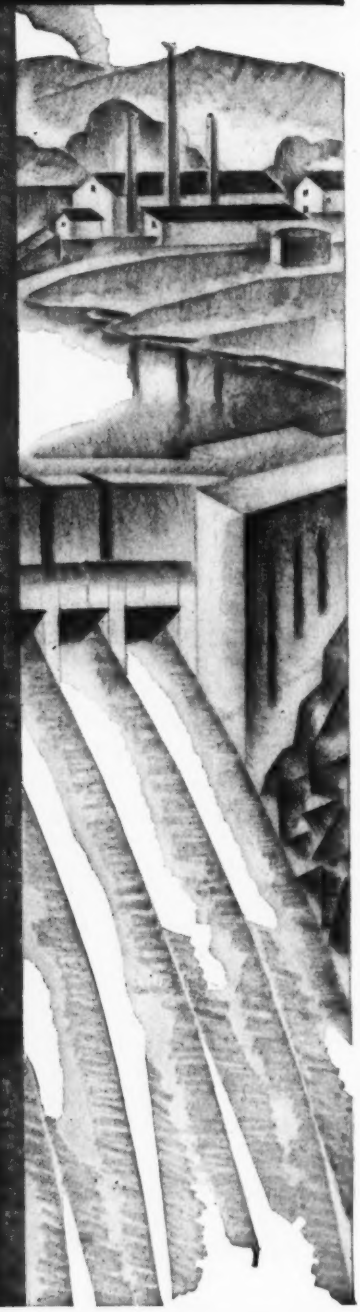
Soda Ash... Caustic Soda... Bicarbonate of Soda... Liquid Chlorine... HTH (Hypochlorite)... Ammonia, Anhydrous and Aqua... Bleaching Powder... Sulphur Dichloride... PURITE (Fused Soda Ash)



Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Method of Determining Water Soluble Materials

By Th. C. Bentzen[1]

No paper testing method should be referred to as "standard" unless it has been recognized as such by the only entitled authority in this line, namely the Technical Association of the Pulp and Paper Industry. Until then, the different methods should only be designated according to their authorship.

My method for extracting finished paper to determine its exact content of soluble matters, which I know shall be of considerable help to others, I shall now have the honor to explain in detail to the members of this club, is just such an individual method on its way to be placed before the TAPPI Paper Testing Committee for criticism, as a proposed standard.

As common distilled water as a rule always contains more or less ammonia, and as even traces of this alkali will influence the results of, for example, volumetric tests, it is necessary to make use of redistilled water for extracting. Experience has taught me a practical way to procure a chemically pure water and with respect to the necessary equipment, I shall refer to the Catalog C of the Central Scientific Company, Chicago.

A Few Details

As heater, I use an electrical flask heater, No. 9647, on a support stand, to which I also connect the distilling flask, a pyrex glass flask No. 6668D, capacity 2,000 cc. Furthermore, a Kjeldahl connecting bulb, pyrex glass No. 9503, and a pyrex glass Liebig's Condensor No. 3231, middle size.

As a matter of fact, all connections must be established through corks covered with tinfoil, and where rubber for practical reasons is wanted, for instance combining two glass tubes, this should be arranged in such a way that the inlet tube fits in a length of 2 inches or more into the corresponding wider receiving tube, and the open space, where the thinner tube is going into the wider, to be sealed with a piece of easy fitting red rubber hose, cleaned in boiling water and rinsed in redistilled water, or in pure alcohol, and then dustfree dried.

The redistilling is performed as follows:

1. Pour 1,500 cc. of distilled water into the flask.
2. Add 75 cc. (50-100 cc.) of a mixture of:
   1 part of a 10 per cent oslution of potassium permanganate in 10 parts of a 10 per cent solution of potassium hydroxide.
3. Reject distillate until Nessler's reagent shows that water is free from ammonia.
4. Collect and store in a pyrex Erlenmeyer flask with tinfoil covered cork stopper (capacity 1,000 cc.). It is not advisable to carry the distillation further than to about 1,000 cc.

It is generally realized that the base for exact calculation of the results of all kinds of paper tests (with a few exceptions) is the air dry condition, obtained at 65 per cent humidity by 70 deg. F., as the standard normal. To obtain this uniform condition a so-called humidity room is required. P. L. Houston, F. T. Carson and R. S. Kirkwood, of the Bureau of Standards, have in Technical Association Papers of June, 1923, pg. 64-71, published some tables according to which it is practically possible to interpolate the results of paper tests made under differing conditions into figures for normal conditions, but these tables cannot be made the base for our experiment. The extraction is performed as follows:

Procedure

1. Weigh exactly 5 grams air dry of the paper to be tested.
2. Fold it in ¼ inch width, zig-zag, then cut in ⅛ to 3/16 inch width strips and place these into a 400 cc. pyrex beaker (Cenco No. 1132).
3. Add 200 cc. redistilled water.
4. Bring to boiling in water bath and keep slowly boiling, evaporating until about 100 cc.
5. Transfer through filter into another 400 cc. pyrex beaker, tall form (Cenco No. 1136) graduated by weight of distilled water, with help of a triangular file (Cenco No. 5298) into 100 cc. volumes.
6. Wash the paper material upon the filter with redistilled water into the filtrate, until about 200-250 cc. total volume has accumulated.
7. Place the beaker in the water bath, heat and evaporate until it is 100 cc. volume, cool off and eventually correct the volume through adding redistilled water.

We now have a precisely 5 per cent extraction of the paper, containing all of its water-soluble matters, and serviceable as well for accurate quantitative, as well as for general qualitative analysis.

If we have to make an analysis of the contents of alcoholic soluble matters in finished paper, for instance of rosin, then we must use other methods, probably in connection with a Soxhlet extraction tube and Liebig condensor, or similar equipment.

Trimming of Box or Container Boards

SPECIAL INQUIRY No. 147

A member writes: "What advantages are gained relative to trimmed or untrimmed combiner boards which are later run through combining machines where a trim is also taken?

"Is it practical to trim at the paper machine, or can this trim be eliminated and taken at the time of combining?

"What are the advantages and disadvantages in each case?"

In order to receive a transcript of the replies received as a result of this inquiry, be sure to send your answer in to the Secretary. Send replies to Secretary of TAPPI, 18 East 41 street, New York, N. Y.

* Presented at the annual meeting of the Paper Technologists Club, Kalamazoo, Mich., May 22, 1930.

[1] Member TAPPI, Chief chemist, Whiting-Plover Paper Co., Stevens Point, Wis.

Steam Improvements at Standard Paper Mfg. Co.

By H. G Burrill[1]

The installation of a new 120 inch paper machine at the plant of the Standard Paper Manufacturing Company, Richmond, Virginia, presented several problems, chief among which was the obtaining of the increased steam demand from the existing boilers, if possible, and the arrangement of the steam and water piping for the paper machine.

The boiler plant consisted of three 200 h.p. Keeler water tube boilers, 165 pounds pressure, complete with the usual accessories and served by a radial brick chimney 125 feet by 4 feet 6 inches.

After detailed study and the consideration of three different plans, it was decided to raise the boilers approximately five feet, making the total height 10 feet, completely reset them and install side retort underfeed stokers. These were purchased considerably over-size for the boilers were to be operated at approximately 225 per cent rating continuously.

Boiler Plant Entirely Rebuilt

The entire boiler plant was rebuilt, a 75-ton steel bunker installed served by a vertical conveyor and feeding directly to the stoker hoppers through chutes. Due to the boiler room being completely closed in by adjoining mill building and no room for ash storage, a steam jet ash-handling system was installed with a 50-ton storage bin, which delivers directly to the railroad cars.

The new auxiliaries, all of which are located in the boiler room, consist of a deaerating feed water heater; two centrifugal boiler

VIEW SHOWING THE COAL ELEVATOR AND BUNKER AND SIDE DISCHARGE ASH HOPPER.

feed pumps, one motor and one steam turbine driven; and a forced draft fan unit with duplex drive. The pumps are controlled by Copes regulators and the fan by Brookes Engineering Company's pressure regulators.

The boilers are set two in one battery and one singly and it was necessary to dismantle and raise them, provide the new brick settings, change the breeching connection to the chimney, remove all the old auxiliaries and piping, and install the new feed pump, fan, heaters, etc., without interrupting the plant operation and to continue to furnish approximately 14,000 pounds of steam an hour for the old paper machine. The more important connections were made during the weekends but the complete improvements were carried out without any interference or shutdowns of any nature.

Recent tests show the average load on two boilers to be approximately 27,000 pounds per hour, which is the equivalent of 225 per cent continuous rating. When the rag boilers are in service for short periods the demand increases to 34,000 pounds of steam per hour, which is met by two boilers, holding one in reserve. Under the average condition, with a good grade of run-of-mine bituminous coal, feed water temperature of 210 deg. F. and with a steam pressure of 150 pounds, an overall efficiency of 74.5 per cent is being maintained.

VIEW TAKEN DURING CONSTRUCTION. THE OLD FEED PUMPS HAD NOT BEEN REMOVED.

Electrical Control

The new 120 inch paper machine, which was built by Rice, Barton & Fales, is a fourdrinier equipped with 38 driers, with a size tub located in the drier section, eight driers back from the calender end. The machine is equipped with a full electric drive, which receives its power from a 200 k.w. duplex turbo generator unit. This set, consisting of a 200 k.w. alternating current motor or generator and a 200 k.w. direct current generator, both driven by a steam turbine, functions as follows:

The synchronous motor or generator is connected to the purchased power bus while the direct current generator supplies the motors operating the paper machine. When producing heavy paper, which requires the paper machine to be running slowly, the steam required for drying is in excess of that needed by the turbine to develop the direct current power necessary to operate the machine. Under this condition the synchronous motor operates as a generator and returns the alternating current energy to the power bus.

During the reverse condition, when operating on a light, fast running stock requiring heavy calendering and easy dryihg, there may not be sufficient steam passing through the turbine to generate the total direct current power required by the paper machine. In this case the synchronous generator operates as a motor, receiving its power from the purchased power bus, and supplies the exact additional direct current energy required.

The exhaust from the turbine is connected to a steam header, which is connected to the paper machine piping. A reducing valve is installed by means of which the turbine may be by-passed, in case of a failure of the turbo-generator unit, and steam supplied directly to the exhaust header and paper machine. The pressure on the exhaust line is set and maintained by a back pressure governor, which holds the steam at a constant pressure and varies the demand to meet the requirements of the paper machine.

[1] Engineer, John D. Hamilton, Lexington Bldg., Baltimore, Md.

As shown in the diagram, steam from the boilers, after passing through the turbo-generator and developing electric power, is exhausted into an auxiliary header. From this header it may be delivered directly to the paper machine header through valve marked "B-1" or it may be passed through both Stickle control valves marked "R-5" and "R-2" or through the latter (R-2), depending upon whether the machine is running on tub or engine size paper.

Fulton System

The Fulton blow-through system was adopted, which passes the steam through a given number of driers, discharging to a receiver under a lower pressure. From this receiver steam is delivered to another set of driers in the wet end and from here direct to the vacuum pump. The function of this system is to remove from the driers the water and air at the drier end and thus improve the heat transfer and increase the drier output. It should be mentioned here, however, that care must be taken to carefully control the condition of the steam for if superheated, due to passing through a reducing valve without performing any work it will tend to char and darken the paper. Under this condition the temperature of the steam will be very nearly that of the high pressure steam, which is too high for paper drying.

With the piping arrangement as shown, the quality of the steam coming from the turbine is 94 per cent, or containing approximately 6 per cent moisture, sufficient to maintain a temperature corresponding to the pressure carried. It was felt, however, that when drying paper after it has been sized that it was desirable to have a positive control to insure a given temperature. To provide for this, a trap was installed on each of the nine size driers.

By referring to the piping diagram, it will be noted that when running on engine size paper the system is connected so that the driers are on the Fulton system with the steam blowing through the size driers as well as a portion of the middle section driers. Stickle control valves are regulated so that the size section roller controls the 8-inch Stickle (R-2) and the 4-inch Stickle valve (R-5) is cut out by closing gate valves (R-6 and R-4) and turning the 3-way cock levers so that the traps on the nine size driers are closed.

The 6-inch drip header has a division valve (B-4) between the size drier section and the middle section and also a 3-inch line connecting this size drier section direct to the vacuum pump. This line is closed by valve B-3 and the 6-inch drip header valve (B-4) opened. All steam to the entire 8-inch header passes through the Stickle valve (R-2), which is controlled from the shrink roller controller in the size drier section, permitting complete control of the drying from the drier end.

When the machine is to be run on tub sized paper the Fulton system is out of service on the size driers by cutting in the nine traps and closing the division valves (B-2 and B-4) on the 8-inch steam header and the 6-inch drip header, respectively. Valve B-3 is opened, connecting this section of the drip header directly to the vacuum pump, and the 4-inch Stickle control valve is closed by opening gate valves (R-6 and R-4) and connecting the size drier control roller to the 4-inch Stickle valve (R-5).

The control roller in the middle section driers is connected to its control valve (R-2) and pressure is carried on the main exhaust lines high enough to cover the machine pressure required by either section, which is generally around 10 pounds. This pressure is dependent, however, upon whether a higher temperature is required in the size drier or in the middle section driers.

System Automatically Controlled

Once set for a given operation, the entire system is practically automatic, but it can be readily changed to meet any combination of pressures or temperatures desired. The operation of all of the apparatus, including the revalving of the paper machine, is controlled by the turbine operator and the duty of the machine tender is to set the Stickle control for the desired dryness of paper.

Welded construction was used throughout on the machine piping and expansion joints installed every 20 feet on the main 8-inch header. All steam and exhaust headers are located in the basement and photographs show the arrangement so that a minimum of space is required. The gate valves are of the outside stem and

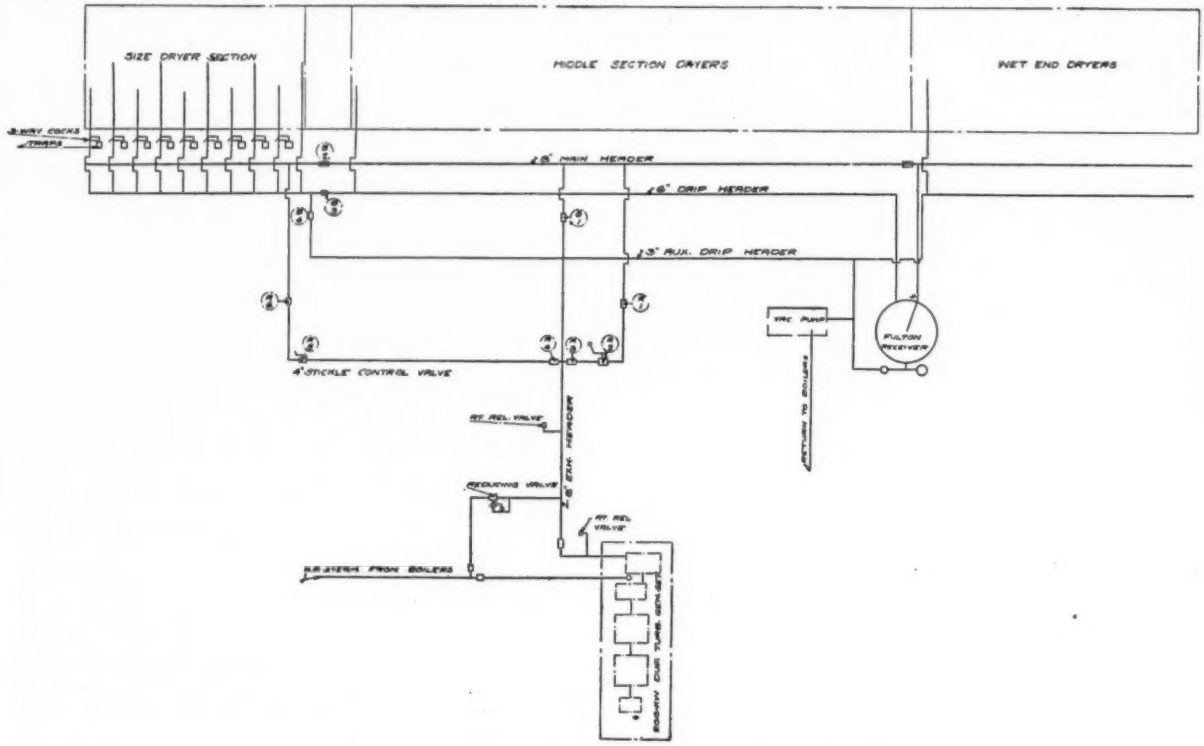


DIAGRAM OF PAPER MACHINE PIPING, STANDARD PAPER MFG. CO.

yoke type so it can be readily determined if they are open or closed. All lines and valves are painted a key color and plainly marked.

In starting operation on Monday morning about forty-five minutes is required from a cold start until paper is brought over the driers. This time could be decreased but it is advisable to place the load on the boilers gradually for they have been practically banked for the previous forty-eight hours.

The design and installation of the equipment in the boiler room, as well as the machine piping and auxiliaries, were all handled under one contract by John D. Hamilton, engineer-contractor, of Baltimore, Maryland.

Performance Standards for .009 Corrugated Paper

By Wilson W. Galloway[1]

Some definite standard of performance of the .009 paper being used for corrugating purposes in the corrugated box industry needs to be established. At the present time, the only specifications by which this material is governed are the caliper .009, moisture 7 to 10 per cent, weight 34 pounds per thousand square feet. Having been made to these specifications by the paper manufacturers, this .009 paper for corrugating is delivered to the box maker, but no one has a definite measuring rule by which he can tell whether it is up to standard, or if it will meet the requirements in the manufacture of boxes. Such a condition should not exist and can be eliminated for the good of all concerned. There are a number of interested parties who logically should cooperate in the establishing of the proper standards for this class of paper, and by getting together they should be able to police the industry with benefit to themselves and with real economy to the general public.

There is no measurement to tell how hard the corrugating sheet should be, when it is too hard, nor when it is not hard enough. No two corrugators have the same ideas of stiffness, and practically no one can tell by any reasonably certain test which of a dozen sheets shown as samples will be most satisfactory or even as satisfactory as one then on the corrugating machine. Few box makers in the corrugated business have any definite reliable tests by which they tell whether the .009 sheet being corrugated is up to a definite standard, above it, or below it. In the majority of corrugating rooms the operator of the machine feels the sheet as it passes through the rolls and says that it will do. In some places the corrugation is examined at the end of the drying table and pronounced "too soft" or "satisfactory." In very few places is the corrugated product held over a period of eight hours or twenty-four hours or a week and then tested by some given method and pronounced either "good," "unusually fine," or "too poor to meet requirements."

Waste in the Industry

Such a situation in an industry as large as this one is lamentable. It is also wasteful. It is costly to the corrugator, as he does not know when he is buying and receiving corrugating paper that meets his needs. It is costly to the paper manufacturer for it puts no premium on quality and gives no protection from the competitor who is marketing an inferior product. It is costly to the supplier of paper making chemicals because he cannot find out, even though his chemicals are used according to his directions, if they are producing a satisfactory sheet up to standards fixed by a scientific method, or whether they are failing to give these results. Such a lack of standards is also prejudicial to the interests of the liner manufacturer, as his high quality liners in a corrugated box may apparently fail to deliver the box to its destination in good condition. The .009 corrugating material may have been the weakness. In addition, his competitor may be selling a very inferior liner and the corrugator may be finding it satisfactory because of the fact that the .009 sheet being corrugated between them is of unusually good quality.

There are mills today making first grade .009 material for corrugating whose products are not getting the rating they deserve because they are being used between inferior liners in boxes, and, too, there are corrugators whose liner is high in quality but whose corrugating paper is not carrying the load. The quickest way for this industry to get away from the penalties it is paying for failures in boxes is to establish standards of quality that can be used, and that must be met. The time is coming when as much attention will be paid to the quality of the corrugated portion of the box, which is one-third of the material, as is now given to the two-thirds represented in the liner.

The measurement of the quality of the .009 sheet is of vital interest to many who can be asked to cooperate. The first group of those interested in defining and establishing standards of performance is composed of mills manufacturing .009 paper. These include .009 straw, .009 chestnut, .009 pinewood, .009 kraft, and .009 chip that is dyed in imitation of straw. The second group is composed of the corrugated box manufacturers. The third group is the manufacturer of liners. The fourth group is the supplier of raw materials and chemicals to both the paper mill and the corrugated box maker.

Statistics of the Industry

The development of the corrugated box industry has proceeded at a very rapid rate. In 1922 there were 176,000 tons of .009 paper manufactured for corrugating purposes, practically all straw. In 1929 this tonnage had increased to 415,000 tons. In addition to the straw for corrugating in 1929 there was also a large tonnage of .009 chestnut and pinewood, and 1930 sees the introduction of the .009 kraft for corrugating purposes. We have always had with us some .009 chip that had been dyed to look like straw.

To complicate the situation still further, the year 1929 saw the introduction and adoption of the new caustic cook of straw and the marketing of a so-called "hard" sheet. While it is admittedly a better product than the all lime cooked sheet, just how much better is it, and how does one know when it is good enough? Furthermore, what makes it good? The specifications of the new straw are the same as on the old except in the matter of weight, which has gradually been reduced from 38 or 40 to 34 pounds. In reference to this last item the purchasing agent at the corrugating plant contends that 34 pounds is the maximum weight of the .009 paper. The manufacturer of the paper says that he runs it 34 pounds average weight, and the superintendent in the corrugating plant advises the salesman that in all cases he receives corrugating paper weighing only 32 pounds whether he is using straw, chestnut, or only the dyed chip imitation. When questioned and asked to prove his statement he produces half a dozen samples taken from rolls on the warehouse floor, and assures the listener that his contention is correct. In addition, he states that all the sheets are "hard" straw, but that the seller's is not quite hard enough.

A similar situation exists when the user of corrugating paper is

[1] Member TAPPI, General manager and treasurer, The Hagar Straw Board and Paper Company, Cedarville, Ohio.

forced to make a choice between the various commodities now on the market in order to please his customer. Without a definite measuring rule he cannot tell whether he is justified in maintaining a supply of one of these or the other, nor is he in a position to demonstrate to the user of boxes just which is the most serviceable and why. If the customer has no choice between the various .009 sheets the box maker will then be in a position to use whatever stock he may have on his floor that meets the standards fixed by the industry.

The crushing resistance of corrugated straw or chestnut or any other sheet can be measured, and a standard of performance set up. The question naturally arises, "How shall the paper for corrugating be tested?" Since it is used as a corrugated product it should be in this shape when tested. The area of the surface of the sample should be reasonable in size. The time elapsed after passing through the corrugator should have a minimum fixed for it to allow the sample to cool to a normal temperature and to permit it to dry. If the test is made with a single faced sample, the facing sheet should be one in common use, and of normal characteristics.

Permanence and Durability

At the present time no cognizance is taken of the fact that there are .009 sheets being manufactured of such a degree of alkalinity that they deteriorate rapidly when they are in storage. This constitutes a direct loss to the corrugator and some definite measurement should be found to determine just which .009 sheet retains its qualities even after months of storage under normal conditions in the corrugator's warehouse.

Simple tests also indicate that here is a wide variance in the length of time required for water penetration of different .009 sheets. Where it is necessary to store .009 paper in conditions that are damp, or where there is considerable natural moisture in the atmosphere, certain .009 sheets will absorb this more readily than will others, and will become soft. Poor boxes will result. There are sheets of .009 paper being made that require a very long time for water penetration and yet these same sheets are easily corrugated and take silicate paste as readily as those that are more porous. They do not soften when stored, and the boxes manufactured from them are satisfactory after a long interval of time has elapsed since the sheet was manufactured or stored by the corrugator.

Suggest Central Laboratory

If all the makers of .009 paper for corrugating would pool their resources pro rata and establish a trade laboratory well equipped and capably manned the industry would be saved many times its cost each year. Better paper would be made at lower cost. Proper standards would be set up for corrugator and paper mill, and the ultimate consumer would be better and more economically served. As a general rule the best help ever given to any industry is that supplied from within the industry itself by those whose experience and judgment and point of view can contribute to the solution of the problem on hand. This problem of proper standards of performance of the .009 corrugating sheet is one that is concrete and simple and capable of solution and when solved will move the industry forward to the place that it deserves by having contributed to the economic betterment of our present day civilization.

Staley Sales Corp. TAPPI Member

"Dear Mr. Macdonald:

"The Staley Company certainly feels honored in having an opportunity to affiliate as an organization and become a member of TAPPI, in addition to the several individual memberships held by our men. Not only will it enable us better to serve mills individually, but it offers us the possibility of contributing our small share toward the best interests of the industry.

"This marks another step forward in following the original policies laid down by A. E. Staley, Sr., which have made possible the present great plant from a most obscure beginning. Originally the list of products included only thick-boiling starches, corn syrup, vegetable oils and feeds, but during the last decade our close association with many specific industries requiring scientific products has increased this to a half hundred modifications, with many more coming each year.

"Our work along this line has been carried out through first determining by close cooperation with many representative mills and plant operators just what would best suit their needs and then perfecting a special formula with them under actual working conditions. This started gradually but has expanded to where it includes all sorts of industries—baking powder, chemicals, explosives, candy, matches, adhesives, bakery goods, powdered sugar, crayons, vinegar, tanned leather, industrial alcohol, veneers, canned vegetables, abrasives, cotton textiles, rayon, paints and many others.

"This development has required elaborate technical and research facilities and consequently these are being continually increased and kept up to the minute to properly maintain our position. Our staff is comprised of many specialists, supported by well trained assistants, most of whom received their early schooling under actual operating conditions in the branch appealing to them most, and which they are now following in a scientific manner.

"It has only been during the last few years that some of our paper mill friends, whom we were supplying starch, indicated a great need for a gum. After many reverses in making it meet the varied mill conditions it has gradually assumed uncontemplated proportions and is now known the country over as Stayco Gum.

"The remarkable growth of the Staley organization from an abandoned factory in 1909 to the present 60 acre plant, grinding over 14,000,000 bushels of corn yearly, is credited to the ideals and ambitions of its founder. From peddling pound packages of hand filled starch to the largest independent manufacturer of corn products in the world is no small achievement in the comparative short time in which this has been accomplished.

"There are now 57 modern fireproof buildings, including a new 3,000,000 bushel elevator, which has a daily handling capacity of 800 carloads. Our big family numbers between 1,500 and 2,000 workers. Around 1,000 tons of coal and 20,000,000 gallons of water are used daily. Our newest feature is the 14 story administration building just completed, a cut of which appears in the 1930 issue of Technical Association Papers.

"All of our friends in the paper industry, particularly members of TAPPI have a standing invitation to visit our plant in Decatur and we shall do our best to make the time spent with us both interesting and enjoyable.

Very truly yours,
Staley Sales Corporation,
Paper Mill Div., C. S. Bowers, Mgr.

TAPPI Notes

James d'A. Clark, formerly technical director of Bowater's Paper Mills, Ltd., of Gravesend, England, is now on the technical staff of the Mead Corporation in Chillicothe, Ohio, as a development engineer.

V. F. Waters, formerly of the Memphis Power and Light Company, has returned to the Maxson Automatic Machinery Company of Westerly, R. I.

C. W. Richards has joined the development staff of the Oxford-Miami Paper Company of West Carrollton, Ohio. Mr. Richards was formerly with the Continental Paper and Bag Corporation of Rumford, Maine.

J. F. Shuman, who for some time was connected with the National Aniline and Chemical Company, is now a superintendent at the Fort Wayne Corrugated Board Company of Hartford City, Indiana.

E. T. Bellew, formerly resident engineer for L. A. De Guere on the Pacific Coast, is now connected with the Sitka Spruce Pulp and Paper Company at Empire, Oregon.

Dr. Bjarne Johnsen, director of the laboratories of the Hammermill Paper Company, Erie, Pennsylvania, is making an extended visit to the Pacific Coast.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

For additional information regarding these abstracts subscribers should address the chairman of the Abstracts Committee, Dr. Clarence J. West, National Research Council, 21st and B Streets, Washington, D. C.

Machinery

Log-Barking Apparatus. H. W. Guettler. U. S. pat. 1,700,220, Jan. 29, 1929.—Successive batches or piles of logs are fed to a cradle structure which is then rocked to cause the logs to roll, rub and abrade against one another until the bark is removed. During rolling of the logs, they are also sprayed with water to assist in the barking porcess and clean the barked logs. A counter weight is provided to balance the weight of the logs in the cradle and of the mechanism by which the cradle structure is rocked.—A. P.-C.

Barking Drum. J. D. Ullgren. U. S. pat. 1,700,390, Jan. 29, 1929.—Instead of being made cylindrical along its entire length, the drum is provided at the receiving end with a charging cone extending outside the drum proper and tapering outwards towards the axis of rotation, the cone being provided with a central inlet opening in its outer free end. This conical inlet takes care of the feeding-in of the wood logs and of the conveying of the logs through the drum, so that it is not necessary to build a wall outside the receiving end of the drum, nor is it necessary to place the drum in an inclined position or to provide the inner surface with means for positively feeding the logs through the drum. Instead of supporting the drum by means of rings around the body portion, one supporting ring is secured to the charging cone and a second supporting ring is provided at the discharge end. The second ring is constructed so as to also serve as an end wall of the drum. In this way, both rings are appreciably smaller than those in general use.—A. P.-C.

Measurement of White Water Flow with V-Notch Weirs and White Water Analysis. H. D. Joachim. Container Corporation of America, Philadelphia, Pa. Paper Trade J. 88, No. 1, 61-63 (Jan. 3, 1929).—A brief discussion of the construction and use of V-notch weirs for measuring white-water flow in pulp and paper mills, and of the methods and value of white water analysis, the determinations of greatest value to paper mills being total solids, total suspended material, total soluble material, soluble organic material, soluble mineral material, suspended organic material and suspended mineral material.—A. P.-C.

Rotary Pulp and Paper Screen. E. W. Lindquist. U. S. pat. 1,694,622, Dec. 11, 1928.—The screen drum is divided to form a series of circumferential suction chambers, each of which is provided with a diaphragm adapted to be flexed to produce suction in the chamber. A cam is mounted coaxially with the drum, and a number of shoes are provided to engage with the cam, each shoe being connected with one of the diaphragms, so that the latter are operated to create suction in the chamber when either the drum or the cam is rotated.—A. P.-C.

Practical Notes on Rifflers. G. Cesconi. Pulp Paper Mag. Can. 27, 195-198 (Feb. 7, 1928).—A discussion of the function of rifflers in the cleaning of different grades of stock, and of their proper design and operation.—A. P.-C.

Pulp-Fiber-Cleansing Apparatus. M. Dezurik. U. S. pat. 1,700,925, Feb. 5, 1929.—The invention consists essentially in progressively and gravitationally passing pulped waste paper stock in suspension in water over the surface of a series of inclined separating screens, and alternately adding and draining a cleansing water until substantially all of the impurities have been removed. —A. P.-C.

Pulp Screen. A. J. Haug. U. S. pat. 1,696,354, Dec. 25, 1928. The invention comprises various details in the construction of screens against a hydraulic head (such as described in Haug's U. S. pats. 1,533,410 and 1,551,953) with a view to facilitating the manufacture, assembly and adjustment of the parts, affecting economies in power consumption, and devising better means for preventing the escape of pulp from the machine, when it is stopped.—A. P.-C.

Apparatus for Measuring the Thickness or Paper on the Paper Machine. W. Beckman and A. Schopper, U. S. pat. 1,692,243, Nov. 20, 1928. The invention provides means for measuring the relative displacement of a "feeler" and the perimeter of a cylinder or roll on which the web is carried, instead of measuring the relative displacement of the "feeler" and the frame of the machine, as done heretofore. This preferably is carried out by providing a carrier which is freely supported on the perimeter of the cylinder or roll carrying the web, but on that part of it which is not covered by the web, and arranging on this carrier a suitable number of measuring instruments across the width of the machine, each instrument being equipped with a "feeler" to bear on the web. As the measuring instruments are supported on the cylinder independently of the frame of the machine, they are not influenced by vibrations or deformations of the latter. In order to prevent injury to the "feeler" mechanism in board machines when the web is removed, means are provided to prevent the "feeler" from coming into contact with the surface of the roll or cylinder.—A. P.-C.

De-Inking Process and Means for Performing Same. W. Lewis. U. S. pat. 1,696,639, Dec. 25, 1928. The waste papers are fed into a tank containing a beating drum in which they are treated with an alkaline solution. The lower half of the vat is provided with a semi-cylindrical false bottom through which the pulp passes after it has been sufficiently disintegrated. It is discharged on to a slightly upwardly inclined endless wire supported on a larger number of small rolls. Above is a second endless wire supported so as to gradually approach the lower wire and exert a gradually increasing pressure on the layer of pulped stock. The stock is delivered from the wire into an agitating tank where it is diluted with water. A suitable number of such units are arranged in series, so that the stock is quite clean when it leaves the last unit.— A. P.-C.

Machine for Cleaning Rags and Waste Paper. A. Aeldert. Fr. pat. 642,407. The material is fed into the space between a screening drum (in the shape of a slightly tapering cylinder) and an outer envelope, which are both provided with coacting fingers or knives, the feed inlet being at the smaller end. A strong draft is created to draw the dust, etc., inside the screen.—A. P.-C.

Beating Paper Pulp. S. D. Wells, Eng. pat. 297,319.—In the production of pulp suitable for the manufacture of paper according to Eng. pat. 285,277, an increased yield of stronger pulp is obtained if the ratio of dry pulp to water in the material treated in the rod mill is increased to 7.5 to 9%.—A. P.-C.

Beater for Paper Stock. C. R. Seaborne. U. S. pat. 1,691,308, Nov. 13, 1928.—A bowl is mounted in a tank, the bottom of the bowl having an opening beneath which is a plate provided with beater knives arranged opposite knives mounted on the bowl and projecting downward. The stock to be beaten is admitted in the

center and passed between the two sets of knives, one of the sets being rotated. The stock is circulated upward between the tank and the bowl, and both upward and downward within the bowl to prevent the stock within the bowl from settling over and plugging the entrance to the knives.—A. P.-C.

Cylinder Washer for Beaters. J. D. Haskell and M. R. Rust, assignors to Dilts Machine Works, Inc. U. S. pat. 1,693,560, Nov. 27, 1928—The end heads of the drum have a serrated perimeter, being shaped somewhat like large ratchet wheels, the edges of the teeth facing in a direction opposite the direction of rotation being abruptly inclined at a slight angle to the radial lines passing through the points of the teeth, while the upper edges of the teeth are inclined at a much greater angle to the said radial lines. The points and bottoms of corresponding teeth of the opposite heads are connected by rigid bars and a wire fabric is wrapped tightly around and against the peripheral edges of the teeth. Each of the end heads is provided with four approximately quadrant-shaped openings, which are covered with wire fabric. The drum is mounted on a pivoted frame which is hung in such a manner as to swing to a substantially horizontal position close to the upper edge of the trough of the beater, thus permitting a considerable portion (nearly one-half) of the drum to be immersed in the circulating stock in the beater-trough. A siphon pipe extends horizontally through the central openings in the end heads of the drum and has a number of vertically depending branches extending down into the stock. The siphon pipe is connected so as not to interfere with the raising or lowering of the drum.—A. P.-C.

Device for Continuously and Automatically Cleaning Breaker Beaters. L. T. Murphy. U. S. pat. 1,702,230, Feb. 12, 1929.—A pit is sunk below the beater tub, ports being provided in the bottom of the tub to permit the heavy foreign substances to pass from the tub into the pit, and the bottom of the pit within the plane of the tub being inclined to cause the foreign material to move by gravity towards the lowest point of the pit within range of a bucket conveyor which acts to scoop it up and deliver it into a dump box supported at a higher elevation than the stock in the beater. In the dump box the heavy substances sink to the bottom; light materials that float in water overflow into a trough leading to a save-all to salvage any stock in the water from the dump box. The latter is also flushed with fresh water introduced at the bottom. The bucket conveyor is preferably driven from the shaft of the beater roll.—A. P.-C.

Beating Engine. Geo. S. Witham, Jr. U. S. pat. 1,692,602, Nov. 20, 1928.—The stock mass is forced away from the rear of the beater roll by means of a screw propeller and driven under pressure, so to speak, towards the front of the roll where the pressure is relieved and the comparatively thick mass flows downwards towards the beater roll partly by gravity and partly by the driving force of the stock behind. In order that the propeller may operate efficiently, the trough back of the roll is provided with semi-cylindrical cover plates and the angles formed between the sides and bottom of the trough are filleted, so that, about the periphery of the propeller and preferably throughout the covered portion of the trough behind the propeller, the trough is substantially circular in cross section and but slightly larger than the propeller. The backfall is eliminated entirely or greatly reduced, so that the impelling action of the roll upon the stock is utilized to the fullest extent. A doctor may be provided to prevent stock from being carried around the roll, but is not necessary. It is claimed that with this construction the stock can be handled at a higher consistency, that the speed of circulation is increased, that a greater volume of stock can be treated in a machine having the same floor area, and a greater depth of stock can be maintained in front of the roll, thus avoiding whipping of air into the stock.—A. P.-C.

Jordan-Engine-Shell Lining. H. D. Martindale assignor to The Black-Clawson Co. U. S. pat. 1,696,641, Dec. 25, 1928.—A metal jacket is provided approximating in shape and size the inner conformation of the shell to be lined; and the metal fly bars and spacing bars are adapted to be assembled in the relation they are to sustain to one another in the shell. The metal jacket of each lining unit is formed of suitable gauge metal, the shape being conical to conform to the interior shape of the shell. The blades and spacing bars are then assembled in the jacket and are held in place by a longitudinally tapered or wedge-shaped expansion bar which is driven between two opposite spacing bars.—A. P.-C.

Method and Apparatus for Handling Broke. H. G. Cram assignor to Great Northern Paper Co. U. S. pat. 1,692,112, Nov. 20, 1928.—A broke beater is provided on the floor below the paper machines, the ends of the beater trough being located approximately beneath the calender stacks of two adjacent paper machines. The floor is slotted between the driers and calenders and between the calenders and reel, and chutes are arranged to guide the broke passing down through either of the slots directly into the beater trough. In order to overcome the tendency of dry broke to "balloon," spray pipes are provided extending across the chutes, at one side thereof, to direct a strong spray of water on the paper as it comes down. The valve in the spray pipes is controlled by means of a "feeler" or "rider plate" resting on the web between the calenders and reel when the paper is passing normally through the machine; when a break occurs the "feeler" drops and operates a compressed air valve which in turn operates to open the water valves. In order to maintain the consistency of the stock in the beater approximately constant, a float (consisting, for instance, of a piece of two-inch hose with the end in contact with the stock plugged) is allowed to rest on the stock just back of the beater roll. When the consistency of the stock in the beater increases, the level back of the roll will rise thereby raising end of the hose; as the latter is pivoted, it is arranged to operate a valve to open a water feed. When the consistency is sufficiently reduced, the level of the stock falls again and the floating hose is lowered and shuts off the water.—A. P.-C.

Filler for Beating Engines. A. C. Bontell. U. S. pat. 1,690,661, Nov. 6, 1928.—The wooden filler is covered with metal, preferably sheet copper, to prevent contamination of the stock by wooden slivers from the filler, and to prevent deterioration of the filler with the consequent necessity of frequent renewals.—A. P.-C.

Consistency Meter. W. L. Merrill, assignor to General Electric Co. U. S. pat. 1,701,331, Feb. 5, 1929.—It has been found that a comparison of the electrical resistances of the stock from the flow box and of the white water which drains near the breast roll gives a very accurate comparison of their respective consistencies, the resistance of the stock increasing with its consistency, while the consistency of the white water is practically zero. The stock and white water are sampled continuously and passed through two resistance cells which are connected to an electrical circuit which is responsive to changes in their relative resistances, such as a branched or divided electrical circuit having the resistance cells in the branches and a common return wire in which is placed the current-responsive device (e. g., an ammeter) which gives a measure of the difference in current passing through the two cells, and hence of the difference in consistency of the stock and white water. A construction of the two cells is described, such that no curernt leakage can take place, while the instrument is available for inspection at all times and can be adapted to existing paper machines.—A. P.-C.

Consistency Regulator. J. Arnot. Eng. pat. 298,337.—The consistency of the stuff going to the paper machine is regulated by an apparatus comprising a conical control-valve, carried by a float vessel within another float vessel, which floats in a float box supplied with a water inlet pipe and an overflow in order to maintain a constant level. The stuff from the stuff chest flows through the control-valve into the float vessel carrying the valve, and as this vessel fills it sinks until the valve is closed. The stuff flows continuously from the vessel through a regulatable outlet to the paper machine, the outlet being set to supply the required quantity of stuff for the particular paper being made. If the consistency increases the vessel sinks quicker and the valve closes with a re-

duced head of stuff for the outlet, thus reducing the supply to the machine. A thinning of the stuff increases the head and the supply. The weight of the float vessel is partly taken by a spring balance, the movement of the pointer of which facilitates the controlling of the apparatus.—A. P.-C.

Miscellaneous

Deterioration of Paper. W. F. Hoffman. Northwest Paper Co. Paper Mill 52, No. 8, 66, 68 (Feb. 23, 1929); Paper Trade J. 88, No. 12, 59-60 (March 21, 1929). Attention is called to several factors in the manufacture of paper in which the alum content and the acidity of the furnish or the finished paper play a part. The optimum alum content of the furnish or the acidity as represented by the pH value cannot, in many cases, be based on any one factor, but must be based on all of the factors which enter the manufacture of that particular paper, including: deterioration of the paper on aging, sizing, coloring, retention of filler, physical properties of the finished paper, difficulties in operating the paper machine, and effects of varying acidities on the paper mill equipment.—A. P.-C.

Causes and Effects of the Cockling of Paper. Anon. Papeterie 50, 1237-1242 (Dec. 10, 1928). A brief discussion of the causes and effects of the cockling of paper and the means to be taken to prevent it.—A. P.-C.

Corrosion in Paper Mills. I. R. McCall. Detroit Graphite Co., Milwaukee, Wis. Paper Trade J. 88, No. 8, 157-167 (Feb. 21, 1929). A brief survey of the various points where corrosion can occur and of the means of preventing it, bringing out particularly the efficiency of properly selected and properly applied paint.—A. P.-C.

Artificial Plastics in Pulp and Paper. Charles W. Rivise. Paper Mill 52, No. 8, 148-152 (Feb. 23, 1929); Paper Trade J. 88, No. 12, 62-64 (March 21, 1929). A brief review of the uses of artificial plastics in the paper industry, particularly for sizing.—A. P.-C.

Stuff Preparation. J. J. O'Connor. Mead Pulp and Paper Co. Paper Mill 52, No. 8, 108, 110 (Feb. 23, 1929). A brief discussion of the importance of devising tests which will give a practical valuation of the raw material, as such and in the course of preparation, for any particular grade of paper.—A. P.-C.

Heating and Ventilating Paper Mills. Anon. Paper Mill 52, No. 8, 122-126, 140 (Feb. 23, 1929). A brief outline of recent progress in the solving of the heating and ventilating problem of pulp and paper mills, with a discussion of the merits of the various ventilating systems controlled by the J. O. Ross Engineering Corp., including the Briner economizer, the Baxter grinder room exhaust system, and the Ross-Grewin system for high pressure vapor removal from paper machines.—A. P.-C.

Handling Materials in the Paper Industry. George D. Bearce. International Paper Co., New York. Paper Mill 52, No. 8, 56-60 (Feb. 23, 1929); Paper Trade J. 88, No. 8, 153, 155 (Feb. 21, 1929); Pulp Paper Mag. Can. 27, 341-342 (March 7, 1929). Brief comments on the high lights of the problem of handling materials in the paper industry, more particularly showing the benefits of the use of skids for shipping paper in sheets.—A. P.-C.

Paper Mill Sites. Walter Linton. World's Paper Trade Rev. 91, 18-24, 74 (Jan. 4, 1929). A general discussion of the various factors to be considered in the selection of a site for a paper mill.—A. P.-C.

Clyde Paper Co., Ltd. A Visit To Rutherglen. Anon. Paper Maker and Brit. Paper Trade J. 76, Annual No. 9-16 (1928). An illustrated description of the paper and coating mills of the Clyde Paper Co.—A. P.-C.

An Elastic Paper Mill. F. W. Buck. H. K. Ferguson Co. Paper Mill 52, No. 10, 4 (March 9, 1929). A brief outline of the manner in which a one-machine mill, which is ultimately to be increased to house two machines, can be designed and constructed at minimum cost and with minimum interference with production when the time comes for expansion. At the Albany mill of the A. P. W. Paper Co., the building was designed and laid out precisely as though two machines were to be installed at the outset, and then only two-thirds of the building was constructed, the enclosure on the side to be expanded being entirely temporary with the exception of the steel sash which could be removed and used in the permanent wall.—A. P.-C.

Built Model Fine Paper Machine. Anon. Paper Mill 52, No. 8, 138, 140 (Feb. 23, 1929). A description of the chief features of the 154-inch fine paper machine built by Rice, Barton and Fales for the Chillicothe Paper Co.—A. P.-C.

Union Bag's New Sulphate Pulp Mill. Anon. Paper Industry 10, 1954-1956 (Feb. 1929). A brief description of the 120-ton sulphate mill of the Union Bag and Paper Corp. at Tacoma, Wash.—A. P.-C.

Chlorine Plant of the Pacific Coast. Anon. Paper Industry 10, 1956-1957 (Feb. 1929). A brief description of the plant of the Hooker Electrochemical Co., at Tacoma, Wash., and of the manufacturing process used for the manufacture of liquid chlorine.—A. P.-C.

Research in Pulp and Paper Work. B. A. Melby. Paper Industry 10, 1940-1943 (Feb. 1929).—Report of the research committee of the Technical Society of the Norwegian Paper Industry, describing the work done during 1923-28.—A. P.-C.

Built Five Paper Machines Last Year. Anon. Paper Mill 52, No. 8, 90-98 (Feb. 23, 1929).—A brief description of the chief features of the five paper machines built by the Bagley and Sewall Co. in 1928: a 264-inch news machine and a 304-inch news machine, both for the Great Lakes Paper Co., Fort William, Ont.; a 168-inch kraft machine for the Taggart-Oswego Paper and Bag Corp.; a 250-inch kraft machine for the National Paper Products Co., and a 202-inch machine for Gray's Harbor Pulp and Paper Co.—A. P.-C.

Bibliography of Paper Making for 1928. Clarence J. West. National Research Council, Washington, D. C. Paper Trade J. 88, No. 8, 173-231 (Feb. 21, 1929).—A. P.-C.

Invisible Shrinkage. A. W. Pesch. Falls Mfg. Co. Paper Mill 52, No. 8, 42, 158, 168 (Feb. 23, 1929): Paper Trade J. 88 No. 12, 61-62 (March 21, 1929).—"Shrinkage" (or more accurately waste) through loss of fiber in white water should be determined directly as accurately as possible, and not merely estimated by assuming certain yields of pulp per "cord" or per cook and considering that the difference between the fiber production estimated in this manner and the amount of fiber in the finished paper is lost in the white water. An appreciable difference between the estimated and directly determined white water loss should be carefully investigated to ascertain the cause of the discrepancy. The estimated loss is frequently much too high because the assumed yields are too high.—A. P.—C.

Treatment of Industrial Wastes from Paper Mills and Tannery on Neponset River. Almon L. Fales. Metcalf and Eddy, Boston, Mass. Ind. Eng. Chem. 21, 216-221 (March 1929).—A description of the treatment of plant waste at the paper mills of Hollingsworth and Vose Co. and Bird and Son, Inc., East Walpole, Mass., and at the tannery of Winslow Bros. & Smith Co., Norwood, Mass.—A. P.-C.

Stream-Pollution Control Activities in Wisconsin. L. F. Warrick, State Board of Health, Madison, Wis. Ind. Eng. Chem. 21, 261-263 (March 1929).—A brief outline of the stream-pollution control program which has been initiated in Wisconsin, which involves considerable co-operation with the various industries concerned, pulp and paper being one of the most important.—A. P.-C.

Mill Research. Vance Edwards. Northwestern Pulp and Paper Co., Astoria, Ore. Pulp Paper Mag. Can. 27, 69-70 (Jan. 17, 1929).—The possibilities of mill research are strikingly exemplified by listing the results actually accomplished in a particular sulphite mill by keeping a continuous record of operating conditions and carefully studying the results. The strength of the

finished pulp was shown to vary as the moisture content of the chips, which varied according to the relative soundness of the wood, the older wood being the drier. Increasing chip length on both hemlock and spruce from ⅝ to 1 inch reduced sawdust loss and correspondingly increased digester yield, the approximate saving being 23 cents a ton. Sulphur consumption varied inversely as the sulphur dioxide concentration in the burner gases. By studying the relationship between the degree of pulping (as measured in the laboratory) and yield, cost and bleachability of the pulp, standard cooking conditions were worked out which reduced the cost of pulp $1.85 per ton and increased the mill output over $1 per ton. Adoption of arbitrary standards of pulp quality in connection with digester control brought the pulp rating from an average of 70% to 95% in less than a year, and digester steam consumption was reduced about 40%, reducing steam cost per ton and increasing the boiler plant efficiency.—A. P.-C.

Machinery

Some Details of Paper Machines Making Esparto. John D. Law. Tullis, Russel & Co., Ltd. Paper Maker and Brit. Paper Trade J. 76, Annual No., 25-30 (1928).—A description of the starting up of an esparto paper machine with a capacity of 100 tons per week (130 hours).—A. P.-C.

Treating Paper Stock Before Compacting It. Agasote Millboard Co., Eng. pat. 286, 948, July 2, 1927.—Paper stock or like fibrous material is treated with water, tannic acid and a metallic soap (which may be prepared from linseed oil, China wood oil or rosin) which may be formed *in situ* after vating the material, by the action of aluminum sulphate.—A. P.-C.

Suction Roll. E. E. Berry assignor to Beloit Iron Works. U. S. pat. 1,694,698, Dec. 11, 1928.—The side walls of the suction box in the roll have flexible buckled or bow-shaped portions permitting spring-like contact between the walls and the inner surface of the shell.—A. P.-C.

Paper Machine. E. A. Ohlin and F. O. Carlsson. U. S. pat. 1,695,972, Dec. 18, 1928.—The machine comprises a couch press, a number of wet presses and a single drying press. The presses (exclusive of the couch press) have a common upper felt and individual lower felts. The lower felt of the press next to the couch press is made of comparatively loose stuff produced by a hard-twisted yarn, and the lower felt of the press nearest the drying cylinder is made with a more tight-woven material and has a smooth surface.—A. P.-C.

Stone Roll for Paper Machines. J. W. Vedder. U. S. pat. 1,693,358, Nov. 27, 1926.—The roll is mounted on a hollow shaft through which cooling water may be circulated from one end to the other.—A. P.-C.

Process and Apparatus for Making Paper. J. C. Corcoran assignor to Argy Pre-Heating Corp. U. S. pat. 1,690,402, Nov. 6, 1928.—The paper is passed around one or more drying cylinders between the first and second presses.—A. P.-C.

Variable-Speed for Paper Machines. H. F. Dunbar. U. S. pat. 1,694,704, Dec. 11, 1928.—A main motor operates a number of smaller hydraulically operated motors which drive the several sections of the paper machine.—A. P.-C.

Fourdriner Paper Machine. Beloit Iron Works. Eng. pat. 298,072.—In a fourdrinier paper machine of the type in which the table structure is removable from its operative support for changing the wire, the suction couch roll is made supportable from one end to permit the wire to be passed over the other end. The frame of the table is carried on two supports, and by lowering the one nearest the couch roll the frame is tilted free of the support near the breast roll and is caused to rest on a pair of rails so that it can be withdrawn. The suction couch roll has a suction chamber mounted on a hollow pedestal connected to a suction pipe, and at the other end is supported in a bearing housing enclosing a cylindrical extension having an elongated end through which the roll is driven from a shaft through a suitable clutch. By disconnecting the suction pipe end and depressing the opposite end by means of a screw provided for the purpose, the pedestal at the suction-pipe end can be removed for the changing of the wire. Shake of the table is effected through spring members.—A. P.-C.

Regulating the Supply of Pulp to Paper Machines. A. Kolitsch. Eng. pat. 298,653.—The variation of vacuum in the suction devices of a paper machine owing to variation in the thickness of the paper being made is used to regulate automatically the supply of stock to the flow box and to the fourdrinier wire.—A. P.-C.

Suction Box for Paper and Board Machines. St. Anne's Board Mill Co., Ltd., and R. B. Heys. Eng. pat. 298,671.—The frictional wear between the suction box and the wire is reduced by providing an endless belt, preferably of rubber, passing over the front and rear portions of the periphery of the mouth of the suction box to provide a moving seal therefor; and the part of the endless belt between the front and rear portions is depressed by passing around a roll so as to provide a space through which suction can be transmitted to the sheet on the wire.—A. P.-C.

Suction-Box Cover. A. Lewis. U. S. pat. 1,696,917, Jan. 1, 1929.—The invention provides an improvement on the construction described in U. S. pat. 1,534,854 of April 21, 1925. The box cover comprises a number of spaced longitudinally extending composite bars. The base member of each bar is preferably made of cast iron or other material which does not readily warp or deform when exposed to moisture, and is provided with a longitudinal groove or slot in its lower face into which fits a guide member formed in the frame of the box. The wearing members, of which the fourdrinier wire actually passes, consists of a set of blocks of wood, ebonite, etc., which can be slid in position on top of the base members to form continuous surfaces separated by longitudinal slots similar to those separating the base members. The wearing members can thus be readily replaced without taking out the suction box or even without disturbing the wire.—A. P.-C.

Feed Control for Paper Machines. A. Kolitsch. U. S. pat. 1,695,380, Dec. 18, 1928.—When the web of paper carried by the wire reaches the suction boxes or suction roll the amount of vacuum in these devices will vary according to the density of the web passing over them, the heavier the web, the higher the vacuum, and the lighter the web the lower the vacuum. This variation of vacuum is made use of to control the feed of the stock to the flow box, so as to automatically keep the weight of the sheet uniform. In order to carry out this method of control and regulation, in addition to the outlet for feeding stock to the flow box with its manual adjustment, a second outlet is provided with a gate controlled by a pressure valve mechanism connected with the suction pipe leading from the suction boxes or suction roll. When the vacuum falls, the valve operates to open the gate valve and increase the amount of stock admitted to the flow box, and vice versa.—A. P.-C.

Fourdriner Paper Machine. P. Priem assignor to American Voith Contact Co. U. S. pat. 1,702,131, Feb. 12, 1929.—The fourdrinier is constructed so as to enable the parts situated respectively above and below the wire to be moved relatively to each other and in such a manner that the beams carrying the breast roll, the table rolls and the suction boxes can be removed laterally out from the machine. Several constructional forms of the invention are described in the specifications.—A. P.-C.

Adjustable Slice for Paper Machines. A. J. Niks. U. S. pat. 1,690,203, Nov. 6, 1928.—The object of the invention is to provide a slice and support therefore which are adjustable in varying positions, in order to permit of an adjustment of the quantity of stock behind the slice to prevent the stock being forced out under the slice if the stock in the stock box accumulates to too great a height in the box. The outlet opening of the stock box is adjustable by means of a vertically adjustable gate, the bottom of which carried a block to which is pivoted a forwardly extending stock-retaining board, supported at its forward end by a series of vertical links to adjust its position. The forward end of the board

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is pivoted to the slice; and the front end of the slice is supported by means of a series of vertical links similar to those supporting the forward end of the stock-retaining board.—A. P.-C.

Machine for Making Blotting Paper. H. R. Williams. U. S. pat. 1,695,873, Dec. 18, 1928.—Pulp is supplied to a tank containing a float which carries a siphon pipe through which the stock is delivered into a second tank provided with an agitator to keep the stock thoroughly mixed and with a screen near the top. The stock overflows on to a traveling wire. Below the wire and near the point where the pulp is delivered on to it, there is a suction box extending the full width of the wire. A short distance in advance of the suction box is the dandy roll, directly underneath which is a table roll. Steam-heated coils are provided under the wire so as to dry it while it is still carried on the wire.—A. P.-C.

Vacuum Seal for Felt Cleaners and Conditioners. W. P. Feeney. U. S. pat. 1,693,374, Nov. 27, 1928.—The cleaning device described in Feeney's U. S. pat. 1,635,317, of July 12, 1927, comprises a tube provided with an elongated slot over which the felt is drawn, the tube communicating with a vacuum pump. It has been observed that, due to the large amount of air drawn through the slot, much power is consumed in operating the pumps. In order to restrict the flow of air through the slot in the suction tube without diminishing the effective degree of vacuum, a suitable resilient roll (e.g., a solid rubber roll or an inflated rubber tube) is mounted so as to ride on the felt over the full length of the slot.—A. P.-C.

Calender Doctor. C. C. Lindstrom assignor to Rice, Barton and Fales, Inc. U. S. pat. 1,692,747, Nov. 20, 1928.—The principal object of the invention is to mount the doctor in such a manner that the force tending to swing the doctor can be applied at a point approximately midway between the ends of the doctor, thus reducing the tendency of the latter to fail to bear with equal pressure at both ends of the roll. Instead of mounting the doctor on trunnions, it is mounted on a shaft running the entire length of the doctor. The doctor back is then secured to brackets (of which there preferably is an odd number) mounted and centered on the shaft. The center bracket is provided with a key extending into a keyway in the shaft and is bound to the shaft by a set screw. The other brackets are made of the same general shape as the central bracket, but have no keyway nor binding screw, and they serve merely as bearings for the shaft and supports for the same, and the twisting movement of the shaft is not transmitted through them at any point.—A. P.-C.

Doctor for Paper Machine Rolls. R. E. Heisel assignor to The Mead Pulp and Paper Co. U. S. pat. 1,696,119, Dec. 18, 1928. —The doctor comprises a body portion mounted on the machine frame and relatively light blade portion, which can be readily and easily placed in position or removed by a single operator without having to stop the paper machine.—A. P.-C.

Device for Removing Caps from Paper Cores. M. J. Malloy and E. A. Buck assignors to Great Northern Paper Co. U. S. pat. 1,692,274, Nov, 1928.—The core is held in a clamping member. The cap extractor comprises a cylindrical segmental expansible collet provided with a series of teeth on its outer periphery. The extractor is introduced into the end of the core, expanded to grip the cap, and on withdrawing it pulls out the cap. When the cap was first applied to the end of the core, the edge inside the core was expanded or forced outwards to grip the core. Means are provided to bend this end slightly inward after extraction of the cap, so that the latter may be used over again. The machine is so constructed that all the operations are controlled by means of compressed air, and the extracted cap is discharged from the extractor at the completion of the operation.—A. P.-C.

Variable-Speed Paper-Machine Drive Train. H. F. Dunbar. U. S. pat. 1,698,189, Jan. 8, 1929.—The sectional driving mechanism comprises a number of prime or main driving motors that are suitably connected to small hydraulic pumps, which in turn are connected by means of suitable piping to hydraulic motors that are directly connected by means of gearing and clutches to the different parts or sections of the paper machine. These pumps and hydraulic motors are sometimes spoken of as the "Universal Hydraulic Variable Speed Gear," which is fully described and illustrated in U. S. pat. 924,787, delivered to Janney on June 15, 1909, for a variable speed transmission device, and in catalogue No. 108 of the Waterbury Tool Co. The several smaller hydraulic pumps are known as the "A end" and the hydraulic motors which are connected to the different sections of the machine are known as the "B end" of this gear.—A. P.-C.

Drive for Paper-Drying Machines. B. A. Malkin. U. S. pat. 1,692,901, Nov. 27, 1928.—A longitudinal driving shaft extends from end to end of the machine. Driven by bevel wheels and bevel pinions are toothed pinions which meshed with toothed wheels, secured to the ends of the drier rolls shafts. The drier roll gears are arranged in units, each unit being enclosed in oil-tight gear cases and adapted to drive a pair of rolls, preferably one upper and one lower roll. The toothed wheels run in oil and the casings are so arranged that a perfect circulation of the lubricant is obtained when the machine is in operation.—A. P.-C.

Paper Machine Drive. F. O. L. Chorlton. Eng. Pat. 298,-853. Each section of the machine is driven by an epicyclic unit of the type described in Eng. pat. 290,790, in which the major portion of the power supplied is transmissible to toothed gearing to the driving shaft of the section. The units are connected together by a continuous or sectional driving shaft by a steam engine or by an electric motor.—A. P.-C.

Paper Machine Drive. A. N. Russell. Eng. pat. 297,642. In a paper machine having two horizontally disposed rows of drying rolls, the rolls are driven by a number of electric motors through gear wheels secured to the spindles of the rolls, idler gears being arranged between each pair of driving gears. The drive from each motor is transmitted through a gear in mesh with an idler gear in one row and a driving gear in the other row, balancing idler gears also being provided.—A. P.-C.

Winding of News Print Rolls. Anon. Paper Mill 52, No. 9, 4, 8 (March 2, 1929).—A brief exposition of the exacting requirements of modern high-speed newspaper presses as regards the quality of the rolls of paper which are fed to them. Various types of "Camachines" have been developed to meet these requirements.—A. P.-C.

Attachment for Paper Machines for Oiling or Waxing Paper. E. O'Brien, U. S. pat. 1,702,129, Feb. 12, 1929.—A bath containing oil or molten wax is provided under the bottom roll of the calender stack, and a small roll partly immersed in the bath and at the same time in contact with the bottom roll of the stack transfers the oil or wax to the latter, which in turn transfers it to the web of paper as it goes to the reel. Means are provided for regulating the pressure with which the oil-transferring roll presses against the calender roll, thereby regulating the amount of oil transferred to the paper.—A. P.-C.

Slitting Means. J. A. Cameron assignor to Cameron Machine Co. U. S. pat. 1,692,815, Nov. 27, 1928.—The invention relates to slitters of the type known as overlapping shear-cut slitters, and has for its main object maintaining the shears in overlapping relation notwithstanding "whipping" of the shaft carrying the slitting elements. Owing to the "whipping" of the driven shaft carrying one set of the slitting elements, the latter frequently have a tendency to ride on top of one another instead of being in overlapping relation. In order to overcome this, the driven shaft is built up in sections which are connected together by coupling means (preferably a "Kanti-lever" coupling) that will allow a certain amount of misalinement of the sections without permitting the members of the sets of shears to move out of overlapped relation. If both members of the shear-cut slitters are mounted on driven shafts, both the latter are built in sections which are connected by means of flexible couplings.—A. P.-C.

Section of the

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American Paper and Pulp Association

Edited by T. J. Burke C. A. Director Cost Dept.

Bonuses to Decrease Costs And Increase Profits*

By George S. May[1]

Definition of "Bonus"

Before we discuss this subject, it might be well that no one misunderstand the meaning of the word "bonus." The other day the president of a large company said, "We don't want to have a bonus system and pay the employes more money than they are entitled to."

I said, "What do you mean?"

Webster's definition of the word "bonus" means "more money than is customary." If there is anything manufacturers do not want to do, it is to pay more money than is customary. But partly, usage has taken the word "bonus" to mean something substituted in the place of piece work or day work. So in the remarks here, where we use the word "bonus," it does not mean Webster's definition, but the meaning applied to it from the manufacturer's point of view.

No Set Plan

Please understand that any remarks I make are subject to change, and I do not have any set plan in mind for any industry. The men in the paper mills today are using different methods.

The industry in general needs some kind of a measuring stick to take care of the amount of money paid out, because the average manufacturer is probably the biggest gambler in the world. He is not a gambler by choice, but a gambler because of the nature of the transactions in which he is required to invest his money. He gambles when the purchasing agent has to go and spend his money; gambles every time he develops a new machine; gambles every time he hires a new superintendent, because he wants to do the things he did in the last plant he was in. A manufacturer gambles a great deal every time he employs a workman, because that man's knowledge may or may not be profitable.

And so, failing to take into consideration all these uncertainties, a lot of manufacturers go out and meet a competitor's prices, who, in turn, is doing the same thing, with the result that sooner or later both of them are swallowed up in industrial failure.

And particularly at this time in the paper industry would I like to impress that statement, when newspapers of the country are carrying certain advertisements of certain paper manufacturers, protesting that they won't sacrifice quality to meet cut-throat prices. It certainly is an opportune time for the Cost Association of the Paper Industry to look at it from that angle.

Labor Losses Large

Personally, I think that the manufacturer gambles more with labor—and I don't make that statement because it is my business—than with anything else; because he has more chances to make profit, more chances to incur losses, in his business, by the paying of labor, than with any other commodity.

I am talking of industry in general, because I want you to get my viewpoint. I could talk of thirty industries, and I probably know less about paper than anybody in the room. But I want you to get my viewpoint so that you can draw a parallel in the application which we make for the paper industry.

15 Per Cent Have Wage Incentives

Now going a step further, statistics indicate that only about fifteen per cent of the employees in the paper industry are under some form of a wage incentive plan, either piece work or bonus. I may be wrong, but those are the figures I have. That means that the other eighty-five per cent are on a straight hourly basis, for the reason that the manufacturer is convinced that that is the best way to handle it. Maybe it is. Maybe there is a better way. So, if you will get the remarks as applied to the industry in general, perhaps some of that eighty-five per cent can be applied under different methods.

Most of you will admit that any measuring stick is better than no measuring stick. When a man comes to you and wants a job at fifty cents an hour, and is working fifty hours a week, he knows in advance that he is going to get $25 a week. A manufacturer knows that he has that man's time, and no one else is going to get it. We have to apply a measuring stick to different kinds of labor in a factory, and if you ask my viewpoint of the paper industry, it is that eighty-five per cent of the payrolls of the paper industry are being entrusted to the foreman in charge of the department, to see whether or not the workman gives fifty cents' worth of services for every fifty cents in his pay envelope.

Now, remember that bonuses or piece work, which we will discuss later, may be applied in any industry, and used as a measuring stick.

The fact that a firm has a measuring stick does not indicate that they are efficient, but it does indicate that they have a method of measuring efficiency.

Three Labor Classes

Going on now to the application to industry in general, of the three classes of labor, let us take direct or productive, indirect or non-productive, and departmental heads or foremen. This is for industry in general. If you will get the first part of these remarks now, it will help you to see how they are applied to the paper industry.

There are three ways. First, on the straight hourly basis. We won't take time to discuss the advantages or disadvantages of the straight hourly basis. There are a great number of plants in this country who would be better off to discard the piece work system and the bonus systems they have and go back to straight day work

* (Delivered at Convention held by Cost Assn. of the Paper Industry, at Pennsylvania Hotel, New York City, February 19, 1930).

[1] President, George S. May, Inc., Chicago and New York City.

coupled with good supervision. I want you to get that clear and not think I am 100% for the bonus, or that I am 50% for piece work. It depends on conditions.

Piece-Work Rates

Under piece work, what happens if a foreman starts setting rates, or even a time study man? It requires a man to make a certain amount of money per day. If that man is to make six dollars per day, the foreman takes that into consideration. Suppose you are working on a machine, and I set a piece work rate of $1.00 per hundred pounds, and you are expecting a rate of $1.25. In the first place, you are disappointed and disgruntled, and you will start out and make as much as you can, if you are honest; ninety-five per cent of the workers are honest. But your objective is to hang out as long as you can, in order to convince the man who set the rate, that it should be worth more money per hundred pounds. The result is that if you hang out long enough, that rate will be changed and made $1.10 or $1.25, and you will get the rate you originally wanted. If you do not, you become dissatisfied and here is what usually happens—when the next rate comes along to be set, you are "laying" for it and the first thing you know there is a higher rate and a lower rate all through the plant, based usually on those conditions.

The actual foreman takes this attitude; You can make out at $1.25 if you want to. If you don't, that is your lookout. That is about the extent of the selling that the average foreman, or average superintendent in factories in general, in industry, does toward selling the operator.

Bonus or Premium Method

Going to the third method, the bonus method or premium method, of which there are many kinds, there are two things to consider: first, the hourly base rate; and second, the amount of money to be paid over the hourly base rate.

If I should come into one of your mills and say, "Why do you pay this man fifty cents an hour?" what do you suppose your answer would be? I have asked it many times, and nine out of ten times the answer is, "Because we have to."

"Why do you have to pay fifty cents an hour?"

"Well, So-and-So pays fifty cents an hour so we do too, for that class of labor."

"How do you know he pays it?"

"Oh, we know he does."

When you come to run down the reasons for paying certain base rates, you will be surprised at the statements that are based on general knowledge. The average foreman tends to employ men at a higher rate than he should, because it makes the job easy, and the better men he can get and the more money he can pay, the more money he can make, and the more efficient the department will be for the company.

Now, if you analyze why a base rate has to be paid, and take the average in a community of, say, twenty-five thousand, you would be surprised at the variance of wages in a community like that, even though every one is supposed to be paying about the same average rate. But there are highs and lows which make up this average. So, in a bonus system—and I want you to get this clearly—there has to be added the extra pay or the bonus that we are concerned about in these remarks. So much for the direct labor.

Going to indirect labor, very little has been done in industry toward establishing an incentive for indirect labor, because it is hard to find a measuring stick, and in the paper industry the application is quite different than in the average factory.

Going next to the bonus system, for foreman and superintendent, only in the last year or two has any real progress, in my estimation, been made toward establishing an incentive for departmental heads. The May organization takes no claim for contributing anything to wage systems in general, as far as direct labor and indirect labor is concerned. I have bought over a half dozen books in the last thirty days, to read about the different ideas in wage systems, different kinds of plans, new ideas.

Departmental Bonuses

Now, when it comes to departmental bonuses for foreman and superintendent, great opportunities exist there. When a foreman makes a good record in your plant, and has turned out a lot of production and handled his department admirably, and comes into your office one day and commences to recite the things he has accomplished, you know right away he is going to hit you for an increase; and you are faced with two things; either grant him an increase because you know he deserves it, or turn him down and you have a dissatisfied man, and the result is that you usually give him an increase. There are very few men who will turn down a foreman when he comes and kicks for more money. You give him an increase, and that foreman admits, after he gets the increase, that he actually does less work than before. That is not dishonesty, but a condition of mind. The foreman wants a new automobile, wants to send his children away to school. He wanted more money, and got it. He didn't lower himself in the estimation of the management, because he didn't do more work. But it is a fact that management is at the mercy of department heads, superintendents, the same as they are with the man on the machine, unless they have a measuring stick for the foreman.

If you will keep those things in mind, before we go to the application to the paper industry, you have some rough idea of the approach with which I would look at any industry, for incentive for a group of men, either direct or indirect labor or department heads.

Paper Mill Bonuses

When you come to the paper industry, which is the second section of my remarks, which will be discussed in the sequence of operations in the paper mill, first applying incentives to labor, indirect and direct, and then to the foreman, and how those can be applied, let me first state that we have found it advisable to take the indirect labor and the direct labor and throw them into one class in the paper mills, machine shops, glass factories, box factories, etc. In foundries it is customary to keep the labor separate. But in the paper mill, we find that it works better to take all the labor and put them on an incentive together, rather than separating them into direct and indirect.

We will first consider the receiving department. Here an incentive can be devised for tons received compared to man hours consumed. In the beater room we can also use man hours consumed per thousand pounds produced. We use the term "thousand pounds" because that is the way the costs are figured. And to that can be added the factor of waste.

However, if you separate the beater room from the machine room, you run into some complications, which are avoided if an incentive is devised, which will treat them as one department. So let us go on to the machine room and then discuss the two together. In the machine room, the standards are worked up in chart form, depending upon the weight of the paper and deckle and so forth, so that you can look at the chart and arrive at the number of man hours to be used for running a particular grade of paper. Now if you take the beater room and the machine groups and treat them as one, and pay an incentive based upon pounds produced for that particular class of paper, with a very severe penalty, that will penalize the men for broke or waste about five times the amount of wages that they would get, if they produced good paper, then you have some protection against that loss which manufacturers in the paper industry have been afraid of. One of the principal reasons, some manufacturers have told me, in the paper industry, for being afraid of an incentive is because of the scrap factor, the waste. If you take a mill where one per cent reduction in broke or waste will amount to $15,000 or $16,000, the element of labor is very small, compared to the losses, which can be incurred: Now, applying a waste penalty to a machine or a beater room also means that a manufacturer must be careful and not penalize operators for waste produced through no fault of

theirs. You understand what I mean—that if waste occurs due to outside conditions, it is not fair to the operators to penalize them for that. It requires fair judgment on the part of the superintendent in handling the bonus, to penalize carefully for the waste factor.

Bonus Based on Total Production

In addition to that, if a machine room has more than one machine, instead of having the bonus apply to one machine, it is advisable to apply it to two or three, because if something happens to one machine the men on the other two machines, or the other one machine, will assist in getting production started again.

The same thing applies in the beater room. After all, there are only a couple of men on a machine who can really control the scrap. But if you take into consideration the fact that the whole thing is on an incentive basis, then if somebody sees something going wrong, they will hurry and tell the machine tender, so he can stop it. In addition to that, if something breaks down, the men in the beater room do not have to be told to go to the machine room to assist in getting production started again.

An accident happened the other day in one of the mills, which we left some months ago. We were called back to check up and our man was going through the mill with the superintendent when one of the maintenance men stopped him, and said, "Do you mind if I talk to you a moment? We want to put on a bonus basis, because every time a breakdown occurs now, the men are simply crazy to get us on the job and hurry us along. They stand over us and tell us to hurry up, in order to get back on production. So we want to be included in the bonus plan."

Maintenance Men Not on Bonus

We have not been able yet, in the paper industry, to figure out a maintenance bonus that will work. You can figure out one for the maintenance men, but I can give you reasons why the maintenance bonus in the paper industry would not be economical, because you would pay out more than you would save. So, in this particular case, we recognized that the hourly base rates of these maintenance men should be increased two to four cents an hour, and they were satisfied. A maintenance man in a paper mill stands ready to help, and won't mind, if you give him an increase in wage, because he is being pressed by those who are on a bonus plan to work faster.

Reduces "Down Time"

Everything should be done to eliminate the down time of the machines. I do not subscribe to the theory that machine speeds be increased, although on one job I have in mind, production has gone up about 4%. The management thinks it is attributable to machine speeds because the machine tender watched the paper and stepped it up every once in a while, and got more production. But in applying incentives to paper mills, that factor should be disregarded because haste makes waste, and haste in a paper mill can do a lot of damage, and waste more raw material than any economy you get out of it.

So please understand that our attitude, in applying it to the paper mills, is not to increase the speeds of the machines over what they have been run, but to eliminate the "down time" of the machines, and get more production by keeping the machines producing.

Waste Factor Important

As broke or waste is probably the most important factor in a paper mill, particularly if you are going to apply an incentive, great care and attention must be taken that the manufacturer is protected by a broke or waste penalty, and the penalty must be very severe in contrast to the amount of money paid, because of the value of the product. The ratio is very high there, to the wages paid the men.

Another thing, in establishing a bonus in a paper mill is to eliminate unnecessary help. That is a tough job, because here is what happens: It was decided in one mill, that two men out of a group of six should be eliminated. All right, the foremen said, "We will eliminate the two fellows employed last." But the superintendent said, "Those two men are the two best men out of the six," and the foreman said, "Well, but these other four men have been here a long time. We cannot let them go." And there was quite an argument as to who should be eliminated. When you establish an incentive you cannot take the same number of men on a job. The average factory has too many foremen, by the way. But before a rate is set, the personnel must be cut down, because it does have to be cut down in more cases than it has to be increased. So, great care must be taken that proper man-power is ready to handle the operations, going through a paper mill.

Now I think I enumerated the machine room-total man hours consumed per ton to produce paper, based on certain standards, protected by a waste penalty, plus some other factors. But those two factors are the important ones in establishing a bonus in a beater and machine room, and the two work together.

Rewinders and Finishing, Etc.

Going to the next operation, taking rewinders, a bonus that will *increase* wages if there is a one per cent *reduction* in scrap, or *decrease* wages if there is an *increase* of one, two, three, or four per cent, can be easily applied. But in this case with the rewinders, it is advisable to apply it to each individual rewinder, and not apply it to the group.

In the next operation, finishing, sorting and bundling, a bonus can be devised based upon man hours.

In the shipping room you can use the same kind of incentive that is used in the receiving room—man hours per ton shipped.

Bonus for Foremen

Now, going to the foreman—it is very important to have labor in the paper mill under some kind of incentive. The things I have outlined to you are suggestive. They work in some mills. In some other mills some other incentive may have to be applied, taking into consideration different factors. However, you consider waste first, and then the incentive for a man to make more money, because you don't get a man to produce more if you don't pay him more wages, particularly if you cut down the personnel in a department. Now, as to the foreman or department heads, before referring to the paper industry, I have on the board here a chart used in a machine shop. And if you will follow through the reasons for use of particular things in the machine shop, you can apply it to the paper mill.

For instance, I think that the bonus for the foreman, in the next five years will be one of the biggest things in industry. I have heard men say that if they had to dispose of their bonuses or their rates, they would have to discard their indirect rates and keep the foreman bonus, rather than to hold on to the rates originally established on the operators.

This chart is not as difficult and complicated as it looks. The reason I did not use a paper mill bonus, is because we would have to take somebody's plant, and I would not want to do that.

In this, the first factor is day work hours in relation to the bonus hours. You know very well if a foreman has fifteen men in a department and four day workers, and is put on a bonus whereby the more he reduces the percentage of the day work hours compared to bonus hours, the more money he will get, that instead of keeping four men on the pay-roll maybe he will get along with three or even two. This particular factor runs from eight to thirty-three per cent, day work hours compared to bonus hours.

This chart is made up of angular lines merely for the sake of guiding and calculating.

This factor "B" is the average operator's efficiency over the standard, or over 100%. In this factory this factor was important, because if a man has twenty operators and they are on day work, and he is thrown on a bonus basis, he will let go the men who are not producing on an average, because they are pulling down the average of the department.

The next standard is the average hourly base rate. Supposing

in this department there are twenty men and the average rate is sixty cents an hour. Harking back to the statement I made a while ago, of why you pay this man sixty cents an hour, the foreman commences to analyze. So-and-So on this operation is getting sixty cents. Supposing that fellow should quit and a man comes along looking for a jog, when the market supply is like it is today, he can replace that fellow for fifty cents an hour. Under this method he not only wants to do it but does do it and probably the fifty cents an hour man can do it better than the sixty cents man. Now, we would not recommend cutting the wage rate of the men; but, if through turnover the foreman can reduce the average base rate, it is a big saving.

And I might say here that any bonus system, whether the May organization put it in or any other organization, that does not continually reduce the cost, after the engineers have left the plant, is not functioning properly. This is the most important factor toward reducing the cost ,after the engineers have gone, of any factor in the whole chart. If a foreman can reduce the hourly base rate to fifty cents an hour, you will be surprised how much money he will save the company.

The scrap factor is next-penalizing foreman for too much broke or waste, or too many dollars' worth of material lost in the factory.

The next is percentage of activity. You know, most manufacturers like to have a departmental incentive. But when you are operating normally and you have put a foreman on a bonus, and all of a sudden business drops off, twenty-five or thirty-five per cent, this factor lowers that man's bonus that much, because he may have fifty men working normally, and he may have them operating at twenty-five per cent. Now, 20% of these men may be laid off through conditions over which he has no control. But he may concentrate on the forty men he has left, and get them producing as much as all the men did previously. In this plant they must have been working overtime hours, requiring more time on the part of the foreman.

As the next factor, we have the number of customers' complaints in relation to the number of orders. So you see there are two factors, to hold down trouble, from the foreman's standpoint —not only the scrap, but also the product that goes to the customer. So the foreman will try to hold down the number of customer's complaints.

Now, the more the hourly base rate goes down, the more money the foreman will earn. When they were operating at 70% efficiency, the foreman got 3% bonus; and when they were operating at 105%, with some overtime, the bonus ran up to 10%, because he had more men to supervise. But all the way through he had more base rate to contend with, and more scrap.

Now, if the foreman's department is in such shape that he drosp below the 100%, he does not get any bonus, but is charged, for the next period, that amount of money he might have earned. Here he got 10% of his weekly salary extra as pay and there he got 3%. It is only recently we have started using a penalty factor for foremen. Ordinarily we started at 100% and ran up to 125%. But what happened? In some plants the foreman would start off on Monday morning, and things would go bad on Monday, Tuesday and Wednesday.| And he would say, "Oh well, my bonus is shot," and he would run down the rest of the week. The next week he would go along better and come back to the 15% or 20% bonus.

You learn a lot of things when a foreman commences to use his head. If he fell down to 94% on this chart, he would have 6% to make up before he would get any bonus in the next pay period.

MEMBER: How about the relation of these lines?

MR. MAY: You can arrange them any way you want to. This is for a machine shop. The sharper the angular lines go down, here, the more penalty there is.

MR. REILLY: What about the help in this foreman's department?

MR. MAY: They are on another bonus. This is a department head's bonus and has no relation whatever to the operator. This is for just one man, the foreman.

MR. REILLY: If those other men are on a bonus, if they earn ten per cent wouldn't that be applicable to the foreman, too?

MR. MAY: Let's assume you are in a paper mill and paying ten per cent. Supposing he gets them up to ten per cent, then if he is getting $50. he gets $5 bonus. Next week he may work them up to twelve per cent, but have high waste. So I say you must have waste penalties.

MR. REILLY: Do you have the same penalties for the foreman and the men?

MR. MAY: You cannot put the foreman and the operators on the same basis. The things on this chart would not apply to the men.

MR. REILLY: You don't penalize their salary?

MR. MAY: You don't deduct from the base rate, of course.

MR. REILLY: We are going through that same procedure now. I have been looking at several schemes and couldn't see any reason why the foreman could not be put on the same basis as his crew.

MR. MAY: That is true if the foreman is a working foreman in the department.

MR. REILLY: That is what I mean.

MR. MAY: That works out very well—and if you have a working foreman in the beater room he should be on the same basis as the operators.

Now, taking the average hourly base rate and following that through to the scrap, we can take the paper machines and have a bonus based on the percentage of lost time and the percentage of defective paper; and then you could pay the foreman a percentage bonus.

In the rewinding department you could have the same thing except to add to that the percentage of customers' complaints.

Suppose you have a chart in operation in a plant and last week a foreman made 10 per cent bonus, but this week he only makes 6 per cent. You can show him just where he fell down and what hurt his bonus. And if a foreman falls down on any one of these factors it affects the ultimate result. The more factors you can put in on a foreman's bonus, the more protection you have. The advantage of the chart is that management can lay their hands on the trouble and point it out to the foreman, and the psychology of it is that the foreman knows that his boss can tell him where he fell down.

Many a good man is working in a factory who is not considered a good man because he is not able to demonstrate his worth to the company, and many a poor foreman is working in a factory where the management thinks he is good, but when you put him on a chart, he goes to the bottom. This chart will show up good men quicker and bad men quicker than any method I know of, and you will be surprised at the change in attitude on the part of the management, as a result.

MEMBER: Is the foreman responsible for the customer's complaints?

MR. MAY: In this plant he was . It depends on conditions. This is a machine shop.

MEMBER: Is a foreman responsible for damage to machines?

MR. *MAY*: Not necessarily. You can take any factor that the management thinks advisable and put it in the chart; and new industries open up new factors to be controlled, because industries differ very much in the application of these things. You can take into consideration the various factors and put on a departmental foreman's chart the things he can control.

For instance, I don't think the foreman's bonus or the superintendent's bonus should be paid at the end of the year. I do believe in manager's bonuses being put on an annual basis. We are putting one president of a company on an annual bonus basis. For every one per cent that he increases the profits of the company to the stockholders, he gets a bonus of $1,000.

I don't think any foreman should have any factor in his bonus that he cannot control.

MR. BURKE: Some of those customers' complaints in our in-

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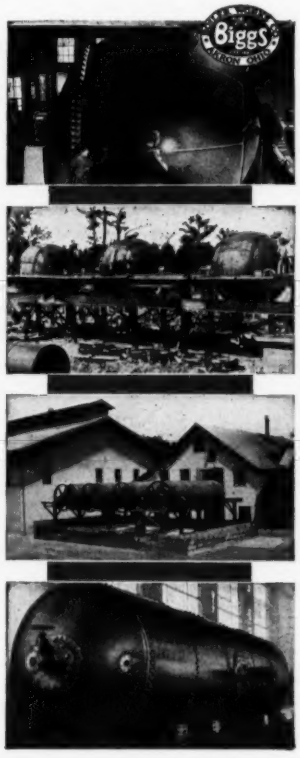

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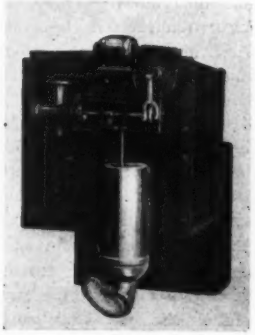

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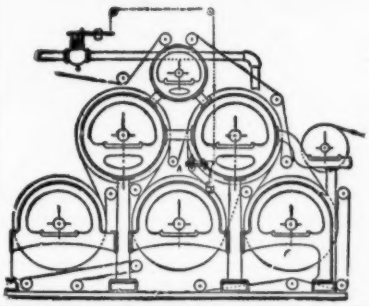

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dustry would have to be segregated according to the nature of the complaint. Some of them might not be justified at all.

MR. MAY: Yes, of course. You have to exercise judgment. Don't think the factors used here are a cure-all. The management must use judgment in exercising the application of the foreman's bonus, just as you use judgment in anything else. But how much better it is to be able to pay a foreman $55 a week instead of $50, if he saves the company, say, $50, or pay him $60 a week if he saves the company $100.00. You will see, over a long period of time, that the foreman will use his head and get full value for each payroll dollar. I think, personally, that cheap labor is the most expensive thing that the manufacturer can have. Some of the worst plants we get into have the cheapest labor, and usually the cheapest labor is the most expensive. Of course you can often take a forty cent man and train him to do a fifty cent operation, if you stay with him. It is a matter of the foreman going out of his way to do these things, sometimes. It is pathetic to see the attitude of the average foreman in a machine shop. He will take a blue print and the number of pieces, and give a workman a job, saying, "Look out for this, and this." And he gives the fellow the job and then never goes back to see how he is getting on. It is almost a miracle if the average foreman goes back to one of his operators, watches him, or suggests a new way to do things. That is not dishonest, but it is a condition that exists in the average American factory today.

Take a paper mill. We had an incident happen less than ten days ago when our engineers went into a paper mill, and at the end of three days we had to go tell that company that we could not save them a nickel. It won't tell who it is, but that man's costs were lower than any mill we had been in. We couldn't eliminate a man in the beaterroom or the finishing room. And we found out this concern had a little foreman's bonus, based a good deal on our ideas. We spent three days and only found a couple hundred dollars' savings. That man's profits are excellent compared to other papermills.

So the greatest thing, in the paper business, in applying a foreman's bonus, is to get more production, more money for the operators, and protect the company. And, consider these four things: Protect the company against too much waste; pay more money to the operators; devise a departmental foreman's bonus; and then sell them the idea, which is the biggest thing of all.

I would say that a good industrial engineer's time is spent, seventy to niney per cent of it, in getting the thing across. It is no good to devise these things on paper, and then in six months say the thing was no good. It was not properly sold to the employees, probably. And I emphasize again that a bonus that does not pay money to the men every pay day is not the right kind of a bonus.

MR. ASTLEY: How do you advocate disposing of your operators during slow business—turning them over to day work or laying them off?

MR. MAY: If you are going to make money, you have got to cut all you can cut. We do it in our business. We had to do it once for a short period. If you have ten men in a finishing room and six men in a beater room, and production running at the rate of five hundred units, and it drops down to three hundred, then, if you are going to maintain your costs and protect yourselves against the selling price, you have got to cut down the labor somewhere or charge it to loss. I know how hard it is for a man to be cold-blooded, and you have to use judgment.

MR. ASTLEY: Do your follow-up investigations reveal anything that you might pass on for consideration, in regard to the effect of laying off during those periods—that is, the effect that it has upon your labor turnover, and the possibility of obtaining again labor sufficiently skillful to insure a good product, as well as the quality of product itself.

MR. MAY: You could not have asked me a harder question. I cannot answer it. It cannot be answered. It is a matter of management.

That concludes the remarks I want to make.

MR. REILLY: What per cent efficient do you have to be before you start earning a bonus?

MR. MAY: I think one per cent or two per cent above normal. There are a lot of wage systems and most of them are the same. And it does not matter how you apply it so long as the work man can understand it. I think that the workmen can understand a wage system better that pays him fifty cents an hour for fifty units, and if he makes fifty-one he gets fifty-one cents, and if he makes fifty-five, he gets fifty-five cents.

You have got to provide an incentive. No matter what the wage system is, if you don't provide the incentive the workmen won't work.

MEMBER: How many weeks would you let a foreman's deficiency pile up before you do something?

MR. MAY: I would not let it pile up at all.

MEMBER: After you explain the thing, does the foreman usually approve it?

MR. MAY: Yes. But as a matter of fact, the average foreman balks a lot more than the operator. Most men resist change and the older they are the harder they balk. But if you introduce the thing to the foreman and tell him it is something that will help him make more money, then he will jump at it.

MR. HERSEY: How do the unions look on a system of this sort?

MR. MAY: Well, I cannot say anything about that here.

MEMBER: In a maintenance shop, where you work on mostly patterns, would you recommend the incentive system, although it is a maintenance machine shop?

MR. MAY: It could be done in some shops. We tried out a maintenance bonus on a coiling machine. It worked out fine on paper, but when we commenced to work on it there were evils that crept in, on administering it.

A bonus plan will work in any place where it will cut cost. If it does not cut cost, don't use it. That is the way I would answer, on the maintenance bonus. It is difficult to administer.

PRESIDENT HERSEY: I don't like to bring the meeting to a close, gentlemen, but they are waiting to set the tables for luncheon. I think we ought to give a rising vote of thanks to Mr. May for his excellent addresss. (Applause).

News Print Production in April

Production of news print in Canada during April 1930 amounted to 228,048 tons and shipments to 221,050 tons, according to the News Print Service Bureau. Production in the United States was 109,967 tons and shipments 109,346 tons, making a total United States and Canadian news print production of 338,015 tons and shipments of 330,396 tons. During April, 23,172 tons of news print were made in Newfoundland and 1,890 tons in Mexico, so that the total North American production for the month amounted to 363,077 tons.

The Canadian mills produced 7,958 tons less in the first four months of 1930 than in the first four months of 1929, which was a decrease of 1 per cent. The United States output was practically the same as in the same period last year. Production in Newfoundland was 10,555 tons or 13 per cent more in the first four months of 1930 than in 1929 and in Mexico 336 tons more, making a total increase of 1,991 tons.

During April, the Canadian mills operated at 75.0 per cent of rated capacity, United States mills at 77.7 per cent and Newfoundland mills at 96.8 per cent. Stock of news print paper at Canadian mills totalled 45,948 tons at the end of April and at United States mills 24,546 tons, making a combined total of 70,494 tons which was equivalent to 4.2 days' average production.

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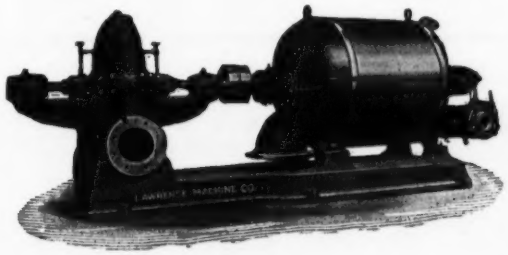

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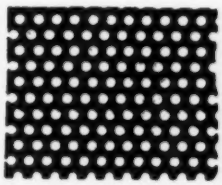

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NEW YORK IMPORTS

WEEK ENDING MAY 24, 1930

SUMMARY

Cigarette paper .....103 cs.
Wall paper .....30 bls., 8 cs.
Paper hangings .....12 bls., 12 cs.
News print .....5138 rolls
Printing paper .....49 rolls, 83 cs.
Wrapping paper .....79 cs
Parchment paper .....21 bls., 18 cs.
Tissue paper .....5 cs.
Decalcomania paper .....12 cs.
Colored paper .....29 cs.
Photo paper .....5 cs.
Baryta coated paper .....173 cs.
Metal paper .....15 cs.
Surface coated paper .....97 cs.
Drawing paper .....55 cs.
Filter paper .....89 cs.
Writing paper .....19 cs.
Design paper .....1 roll, 1 crate
Cover paper .....11 cs.
Pigment paper .....2 cs.
Caoutchouc paper .....6 cs.
Miscellaneous paper .....
.....139 pkgs., 253 rolls, 33 bls., 116 cs.

CIGARETTE PAPER

De Manduit Paper Corp., Collamer, Havre, 170 cs.
Standard Products Corp., De Grasse, Havre, 33 cs.

WALL PAPER

Schmidt & Pritchard, Berlin, Bremen, 1 ble.
F. J. Emmerich, Carmania, Southampton, 1 ble.
Guaranty Trust Co., Hamburg, Hamburg, 4 cs.
Bendix Paper Co., Hamburg, Hamburg, 12 cs.
Globe Shipping Co., Hamburg, Hamburg, 12 bls.
F. J. Emmerich, Hamburg, Hamburg, 10 bls., 2 cs.
J. E. Bernard & Co., Bremen, Bremen, 1 ble.
F. J. Emmerich, Arabic, Liverpool, 3 bls., 2 cs.
A. C. Dodman, Jr., Inc., Homeric, Southampton, 1 ble.
Tice & Lynch, Homeric, Southampton, 1 ble.

PAPER HANGINGS

W. H. S. Lloyd & Co., Minnetonka, London, 3 cs., 10 bls.
W. H. S. Lloyd & Co., Arabic, Liverpool, 5 cs.
F. L. Kramer & Co., Homeric, Southampton, 3 cs.
Whiting & Patterson Co., Inc., Homeric, Southampton, 1 cs., 2 bls.

NEWS PRINT

Perkins, Goodwin & Co., Holger, Bremen, 490 rolls.
Parsons & Whittemore, Inc., Holger, Bremen, 286 rolls.
Parsons & Whittemore, Inc., Chickasaw, Kotka, 724 rolls.
Perkins, Goodwin & Co., Hamburg, Hamburg, 125 rolls.
W. H. Bell, Markland, Liverpool, N. S., 3513 rolls.

PRINTING PAPER

International F'd'g. Co., Statendam, Rotterdam, 25 cs.
Keuftel & Esser Co., G. Washington, Hamburg, 49 rolls.
E. Dietzgen & Co., Hamburg, Hamburg, 9 cs.
P. C. Zuhlke, Westernland, Antwerp, 1 cs.
———, Chickasaw, Kotka, 41 cs.
Steffens Jones Co. I. Jadot, Antwerp, 7 cs.

WRAPPING PAPER

C. Steiner, Statendam, Rotterdam, 17 cs.
Japan Paper Co., Westernland, Antwerp, 6 cs.
Sylvania Industrial Corp., Westernland, Antwerp, 56 cs.

PARCHMENT PAPER

Dingelstedt & Co., Statendam, Rotterdam, 13 cs.
———, Hamburg, Hamburg, 21 bls.
Gevaert Co. of America, Westernland, Antwerp, 5 cs.

TISSUE PAPER

G. W. Sheldon & Co., Minnetonka, London, 3 cs.
B. F. Drakenfeld & Co., Samaria, Liverpool, 2 cs.

DECALCONANIA PAPER

B. F. Drakenfeld & Co., Samaria, Liverpool, 5 cs. (duplex).
Phoenix Shipping Co., Berlin, Bremen, 3 cs.
C. W. Sellers, Bremen, Bremen, 4 cs.

COLORED PAPER

S. Gilbert, Berlin, Bremen, 22 cs.
H. Lange, Berlin, Bremen, 1 cs.
Borden Riley Paper Co., Westernland, Antwerp, 6 cs.

PHOTO PAPER

Medo Photo-Supply Co., Minnetonka, London, 2 cs.
J. J. Gavin, Homeric, Southampton, 3 cs.

BARYTA COATED PAPER

J. H. Schroeder Banking Corp., Berlin, Bremen, 72 cs.
Globe Shipping Co., Berlin, Bremen, 101 cs.

METAL PAPER

Hensel Bruckman & Lorbacher, Berlin, Bremen, 14 cs.
Titan Shipping Co., Hamburg, Hamburg, 1 cs.

SURFACE COATED PAPER

Phoenix Shipping Co., Hamburg, Hamburg, 2 cs.
Gevaert Co. of America, Westernland, Antwerp, 67 cs.
P. C. Zuhlke, Westernland, Antwerp, 28 cs.

DRAWING PAPER

Keuffel & Esser Co., Carmania, Southampton, 2 cs.
H. Reeve Angel & Co., Inc., Carmania, Southampton, 1 cs.
Keuffel & Esser Co., G. Washington, Hamburg, 52 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Carmania, Southampton, 12 cs.
C. Schleicher & Schull Co., Hamburg, Hamburg, 22 cs.
E. Fougera, Homeric, Southampton, 55 cs.

WRITING PAPER

J. H. Faunce, Collamer, Havre, 18 cs.
H. Reeve Angel & Co., Inc., Carmania, Southampton, 1 cs.

DESIGN PAPER

Wilkes-Barre Lace Manfg. Co., Samraia, Liverpool, 1 roll.
American Express Co., Samraia, Liverpool, 1 crate.

COVER PAPER

International F'd'g. Co., Hamburg, Hamburg, 11 cs.

PIGMENT PAPER

Draeger Shipping Co., Hamburg, Hamburg, 2 cs .

CAOUTCHOUC PAPER

American Express Co., Hamburg, Hamburg, 6 cs.

MISCELLANEOUS PAPER

Heemsoth Basse & Co., Statendam, Rotterdam, 33 bls.
Carborundum Co., Samaria, Liverpool, 6 cs.
D. C. Andrews & Co., De Grasse, Havre, 2 cs.
G. L. Stockham, De Grasse, Havre, 1 cs.
American Express Co., De Grasse, Havre, 75 cs.
Fidelity Trust Co., Hamburg, Hamburg, 8 rolls.
Keller Dorian Paper Co., Paris, Havre, 2 cs.
Japan Paper Co., Paris, Havre, 4 cs.
Houbigant, Inc., Paris, Havre, 24 cs.
Cheramy ,Inc., Paris, Havre, 2 cs.
D. S. Walton & Co., Drottningholm, Gothenburg, 24 rolls.
The Borregaard Co., Inc., Drottningholm, Gothenburg, 51 bls., 88 rolls.
P. H. Petry & Co., Drottningholm, Gothenburg, 115 rolls.
Johanson Wales & Sparre, Inc., Drottningholm, Gothenburg, 18 rolls.
Durex Abrasive Corp., J. Jadot, Antwerp, 139 pkgs.

RAGS, BAGGINGS, ETC.

G. J. Schuster, Siboney, Havana, 6 bls. rags.
Darmstadt, Scott & Courtney, Minnetonka, London, 28 bls. rags.
New York Trust Co., Minnetonka, London, 26 bls. rags.
Darmstadt, Scott & Courtney, Collamer, Havre, 41 bls. rags.
Darmstadt, Scott & Courtney, Innoko, Rotterdam, 61 bls. rags.
Castle & Overton, Inc., Nordbo, B. Ayres, 93 bls. rags.
R. F. Downing & Co., Carmania, Southampton, 272 bls. rags.
Irving Trust Co., G. Washington, Hamburg, 36 bls. threads.
Chase National Bank, G. Washington, Hamburg, 29 bls. rags.
Baring Bros. & Co., G. Washington, Hamburg, 41 bls. rags.
Amtorg Trading Corp., G. Washington, Hamburg, 9 bls. rags.
Kidder Peabody Accep. Corp., G. Washington, 33 bls. rags.
Castle & Overton, Inc., Oscar II, Copenhagen, 50 bls. new cuttings.
A. W. Fenton, Inc., Oscar II, Copenhagen, 11 bls. rags.
E. Butterworth & Co., Inc., Wytheville, Antwerp, 85 bls. flax waste.
French American Banking Corp., Wytheville, Antwerp, 10 bls. rags.
Amtorg Trading Corp., Mitchell, Odessa, 1638 bls. rags; 349 bls. new cuttings.
———, California, Glasgow, 40 bls. paper stock.
C. R. Spence & Co., California, Glasgow, 40 bls. rags.
Arkus, Inc., Arabic, Liverpool, 67 bls. bagging.
Royal Manfg. Co., Hohenstein, Antwerp, 48 bls. threads.
Liberty National Bank, Tagliamento, Naples, 121 bls. rags.
Banco Com'l Italiane Trust Co., Arna, Genoa, 187 bls. bagging.
Darmstart, Scott & Courtney, Arna, Genoa, 243 bls. bagging.
International Trust Co., Arna, Barcelona, 105 bls. rags; 79 bls. bagging.
H. G. Lichtenstein, Arna, Barcelona, 137 bls. bagging.
Chemical Bank & Trust Co., 174 bls. rags.
———, Arna, Barcelona, 72 bls. rags.
———, Arna, Barcelona, 162 bls. bagging.
———, Estrella, Barcelona, 70 bls. bagging.
———, Estrella, Barcelona, 28 bags old pickers.
Chemical Bank & Trust Co., Estrella, Barcelona, 94 bls. bagging; 73 bls. rags.
Chemical Bank & Trust Co., Estrella, Valencia, 101 bls. rags.
Fidelity Trust Co., Exarch, Bari, 34 bls. rags, 59 bls. bagging.
Banco Com'l. Italiane Trust Co., Exarch, Genoa, 214 bls. bagging.

OLD ROPE

Brown Bros. & Co., Statendam, Rotterdam, 52 coils.
Brown Bros. & Co., Innoko, Rotterdam, 93 coils, 83 bls.
Brown Bros. & Co., Westernland, Antwerp, 49 bls.
Brown Bros. & Co., J. Jadot, Antwerp, 70 bls.
International Purchasing Co., Exarch, Genoa, 64 bls.

CASEIN

American & British Chemical Supply Co., Majestic, Southampton, 300 bags.
Kalbfleisch Corp., Southern Cross, B. Ayres, 2917 bags.
1st National Bank of Boston, Southern Cross, B. Ayres, 1667 bags.
Brown Bros. & Co., Southern Cross, B. Ayres, 990 bags.

WOOD PULP

National City Bank, Holger, Bremen, 254 bls. wood pulp.

(*Continued on page 74*)

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Imports of Paper and Paper Stock

(*Continued from page 72*)

Polaris Shipping Co., Krosfond, Guysborough, 1550 cords wood pulp.
Atterbury Bros. Inc., Oscar II, Oslo, 500 bls. wood pulp, 100 tons.
International Accep. Bank, Oscar II, Oslo, 300 bls. wood pulp, 60 tons.
Bank of N. Y. & Trust Co., Oscar II, Oslo, 300 bls. wood pulp, 50 tons.
M. Gottesman & Co., Inc., Ragnhildsholm, Stockholm, 1800 bls. sulphite.
Johanson, Wales & Sparre, Inc., Ragnhildsholm, Gothenburg, 2900 bls. sulphite.
E. J. Keller Co., Inc., Hamburg, ———, 360 bls. wood pulp, 55 tons.
———, Chickasaw, Kotka, 721 bls. sulphite, 119 tons.
———, Chickasaw, Kotka, 1136 bls. sulphite, 192 tons.
Johanson, Wales & Sparre, Inc., Drottningholm, Gothenburg, 875 bls. sulphate.
Parsons & Whittmore, Inc., Drottningholm, Gothenberg, 120 lbs. sulphite.
E. M. Sergeant & Co., Drottningholm, Gothenburg, 449 bls. dry soda pulp.
Johanson, Wales & Sparre, Inc., Drottningholm, Gothenburg, 240 bls. dry soda pulp.
A. P. W. Paper Co. (Albany), Dago, Sheet Harbor, 7416 bls. wood pulp, 1659 tons.
E. J. Keller Co., Inc., Bergensfjord, ———, 250 bls. wood pulp.

WOOD FLOUR

The Burnet Co., Innoko, Rotterdam, 685 bags.
Innes Speiden & Co., Ragnhildsholm, Gothenburg, 726 bags.

BALTIMORE IMPORTS

WEEK ENDING MAY 24, 1930

National City Bank, Mississippi, London. 110 bls. rags.
National City Bank, Exarch, Piraeus, 389 bls. rags.
J. Andersen & Co., Alberta, Trieste, 490 bls. wood pulp.

PORTLAND, ME., IMPORTS

WEEK ENDING MAY 24, 1930

J. Andersen & Co., Chickasaw, Hernosand, 2400 bls. sulphate, 460 tons.
Waterfalls Papermills Co., Chickasaw, Gothenburg, 6000 bls. wood pulp.
The Borregaard Co., Inc., Chickasaw, Gothenburg, 1250 bls. wood pulp.
M. Gottesman & Co., Inc., Chickasaw, Gothen-

NEW ORLEANS IMPORTS

WEEK ENDING MAY 24, 1930

Guaranty Trust Co., Alberta, Trieste, 35 bls. bagging.

PHILADELPHIA IMPORTS

WEEK ENDING MAY 24, 1930

W. Heisley, Collamer, Havre, 20 bls. rags.
J. A. Steer & Co., Collamer, Dunkirk, 132 bls. rags.
D. I. Murphy, Collamer, Dunkirk, 64 bls. rags.
Darmstadt, Scott & Courtney, Collamer, Dunkirk, 54 bls. rags.
Katzenstein & Keene, Inc., Collamer, Dunkirk, 253 bls. rags.
Asam Bros., Holger, Bremen, 1 cs. wall paper.
International Trust Co., Holger, Bremen, 214 bls. rags.
C. Lachman Co., Holger, Bremen, 65 bls. jute waste.
Liberty National Bank, Holger, Bremen, 307 bls. rags.
Chemical Bank & Trust Co., Holger, Hamburg, 132 bls. wood pulp.
J. Andersen & Co., Holger, Bremen, 442 bls. wood pulp.
J. A. Steer & Co., Wytheville, Antwerp, 53 bls. rags.
Castle & Overton, Inc., Wytheville, Antwerp, 499 bls. rags.
National Vulcanized Fibre Co., Wytheville, Antwerp, 117 bls. rags.
S. E. Ingber, Wytheville, Antwerp, 125 bls. rags.
J. H. Shoemaker Co., Wytheville, Antwerp, 3 cs. paper.
Amtorg Trading Corp., Mitchell, Odessa, 609 bls. rags; 397 bls. rags.
Guaranty Trust Co., Exarch, Bari, 61 bls. rags.
Fidelity Trust Co., Exarch, Bari, 161 bls. rags.
F. Weber & Co., Exarch, Genoa, 15 cs. paper.
V. Galaup, Exarch, Genoa, 38 bls. rags.
International Trust Co., Exarch, Marseilles, 82 rolls old rope.
E. J. Keller Co., Inc., Arna, Marseilles, 72 bls. rags.
Philadelphia, National Bank, Arna, Leghorn, 110 bls. rags.
Banco Com'l. Italiane Trust Co., Arna, Leghorn, 133 bls. rags.
———, Alberta, Trieste, 196 bls. rags.
E. J. Keller Co., Inc., Frankenwald, ———, 727 bls. wood pulp.
E. J. Keller Co., Inc, Minnesota, ———, 205 bls rags.

BOSTON IMPORTS

WEEK ENDING MAY 24, 1930

Brown Bros. & Co., Mississippi, London, 162 coils old rope; 51 bls. waste paper.
Baring Bros. & Co., Mississippi, London, 211 bls. waste paper.
Crocker Burbank Co., Mississippi, London, 379 bls. waste paper.
Furness Withy Co., Mississippi, London, 42 bls. rags.
Meredith Linen Mills, Wytheville, Antwerp, 113 bls. flaxwaste.
International Purchasing Co., Wytheville, Antwerp, 76 bls. bagging.
Parsons & Whittemore, Inc., Ragnhildsholm, Stockholm, 240 bls. sulphite.
J. Andersen & Co., Ragnhildsholm, Gothenburg, 2075 bls. sulphite.
Perkins, Goodwin & Co., Ragnhildsholm, Gothenburg, 4166 bls. sulphite; 508 bls. kraft pulp.
The Borregaard Co., Inc., Ragnhildsholm, Gothenburg, 500 bls. wood pulp.
Price & Pierce, Ltd., Ragnhildsholm, Gothenburg, 500 bls. wood pulp.
Beechnut Packing Co., Ragnhildsholm, Gothenburg, 197 rolls wrapping paper.
A. Johnson & Co., Ragnhildsholm, Gothenburg, 270 rolls wrapping paper.
J. Andersen & Co., Chickasaw, Hernosand, 4050 bls. sulphite, 715 tons.
Pagel, Horton & Co., Inc., Chickasaw, Hornosand, 600 bls. sulphite, 100 tons.
———, Chickasaw, Kotka, 3060 bls. sulphite, 512 tons.
———, Chickasaw, Kotka, 3407 bls. sulphate, 589 tons.
International Purchasing Co., Exarch, Genoa, 73 coils old rope.

Eddy Paper Corp. To Build Warehouse

[FROM OUR REGULAR CORRESPONDENT]

THREE RIVERS, Mich., May 26, 1930.—The O. F. Miller Company has been awarded a contract to erect a large steel warehouse for the Eddy Paper Corporation at Three Rivers. The building will be one story high and 100 by 500 feet in dimensions. It will be set on heavy concrete piers.

Another improvement now being handled by O. F. Miller in the Three Rivers plant is the change in company's offices. They are to be moved from the present location to the top floor of the stock house and will occupy 15,000 square feet of floor space. A Masonite ceiling will be put in, while oak panels will separate the various offices.

In connection with this the old offices are to be entirely eliminated and the space, about 20,000 square feet, will be added to the carton division, devoted to the manufacture of shipping containers. It is the plan to move a portion of the Chicago plant to Three Rivers and that will result in a considerable addition to Three Rivers population.

Keith Paper Co. Elects Officers

TURNERS FALLS, Mass., May 27, 1930.—The following officers of the Keith Paper Company were elected last week: President, Jonathan Buckley of New York City; vice president, Rudolph Pagenstecher also of New York; treasurer and general manager, Albert H. Smith. Fred T. Burkhardt of Holyoke is head of the sales department.

Gummed Products Sample Book Issued

The Gummed Products Company, manufacturers of gummed tape, paper and cloth, and super flat gummed papers, of Troy, Ohio, have just published a new Flat Gummed Paper Sample Book. As is well known, these papers are made in one of the best equipped gumming plants in the country.

It is the policy of the Gummed Products Company to sell its flat gummed papers to paper merchants under their own private brands. Many paper distributors are beginning to see the wisdom of this policy because under their own private brands they are building up a reputation for themselves.

In connection with this sample book, the Gummed Products Company has recently issued a new price list. Any fine paper merchant who has not received a copy may secure one upon application.

Container Corp. of America

P. J. Volgan, advertising manager of the Container Corporation of America, Chicago, writes as follows regarding an item under the Philadelphia correspondence in the issue of the PAPER TRADE JOURNAL of May 10:

"We have noted with surprise an article in a late issue of the PAPER TRADE JOURNAL, under the heading 'American Container Corporation Acquires Offices.' This article very evidently relates to the recent activities in the Eastern Division of the Container Corporation of America, making your subject name a misnomer, as there is no 'American Container Corporation.' Further, as to products, our Eastern mill manufactures corrugated and solid fibre shipping containers and box boards."

Appleton
Felts and Jackets

"THE FOURDRINIER THAT TOOK THE IRE OUT OF WIRE"
INTERNATIONAL WIRE WORKS
Menasha, Wisconsin

Filter Deckers — Pulp Washers Save-Alls
FILTRATION ENGINEERS INCORPORATED
SERVICE — ECONOMY
Los Angeles, Portland, Newark, New York
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Bailey Meter Company
1056 Ivanhoe Road, Cleveland, Ohio
Specializing in
Power Plant Metering Equipment

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HEATING—VENTILATING—DRYING
J. O. ROSS ENGINEERING CORPORATION
201 North Wells Street, CHICAGO — 122 East 42nd St., NEW YORK — 519 American Bank Building, PORTLAND, ORE.

E. D. JONES & SONS CO.,
PITTSFIELD, MASS.
MANUFACTURERS OF
PAPER MILL MACHINERY

Appleton Wires
are good wires
APPLETON WIRE WORKS INC., APPLETON, WIS.

Perforated Metal Screens
for every purpose
also elevator buckets of all kinds; chutes; hoppers; stacks and tanks.
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PULP AND PAPER MILL ENGINEER

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TRADE "Cel-U-Del" MARK
Patents Pending
The Modern Chemical for Cooking all Classes of Fibe for Paper Manufacture
HARBAUGH PROCESS CO.—CHICAGO, ILL.

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CHIP BREAKERS
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LOG HAULS
SPLITTERS

KARL A. LEFREN, Inc.
CONSULTING ENGINEERS
171 Madison Ave. — New York City

ANALYSES *and* TESTS *of*
PAPER, PULP AND PAPER-MAKING MATERIALS
FIBER ANALYSES — SPECIFICATIONS
OFFICIAL PULP SAMPLING AND TESTING
Arthur D. Little, Inc.
Analytical Department
30 CHARLES RIVER ROAD, CAMBRIDGE, MASS.

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STOCK EXTRACTORS — BANDLESS TYPE ROLLS
CYLINDER WASHERS — FLY BARS – BED PLATES
LEVER TYPE DUMP VALVES — STUFF CHESTS AND AGITATORS
FALK GEAR REDUCERS — DAYTON COG BELT DRIVES
The MIDWEST MACHINE CO.
DAYTON, OHIO.

JOHNSON & WIERK
INCORPORATED
CONSULTING ENGINEERS
For Paper Mills
GRAND CENTRAL TERMINAL BLDG. NEW YORK

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, May 28, 1930.

Conditions in the local paper market during the past week were irregular. Demand for the various standard grades of paper was rather light. Inquiries for future needs are reported to be fairly numerous. Sales forces of the leading paper organizations are conducting a strenuous campaign for orders. Prices are holding to schedule, in most instances, although concessions are being made on some grades, due to keen competition.

Some improvement was noticed in the news print market. Consumption is being maintained in good volume. Production in the United States and Canada proceeded at 76 per cent of capacity during the past week, according to information gathered by the News Print Service Bureau. Shipments went forward at 78 per cent of rating, a gain over the preceding week. Prices remain unchanged.

Trading in the paper board market was fairly active. Box board mills operated at 70 per cent of capacity during the past week. The price situation remains unsatisfactory. Supplies of fine paper are going forward at an excellent pace and prices are steady. The kraft market continues spotty. Prices are easy. No. 1 domestic kraft is now offered at from $5.75 to $6.25, a sharp reduction.

Mechanical Pulp

While business in the ground wood market is quiet at present the industry is considered to be in a sound position. The contract movement for both imported and domestic mechanical pulp is well up to average for the season. Offerings are about sufficient to take care of current requirements. Prices are generally holding to schedule and shading is infrequent.

Chemical Pulp

The chemical pulp market was rather listless. Shipments against contract, however, were fairly heavy for the time of year. Weakness developed in imported kraft pulp, and prices declined somewhat. No. 1 imported kraft pulp is now offered at from $1.85 to $2.15 and No. 2 imported kraft pulp at from $1.75 to $1.90, on dock, Atlantic ports.

Old Rope and Bagging

Paper mill interest in the old rope market has fallen off slightly. Both domestic and imported old manila rope continue fairly steady. Mixed strings are quiet. Prices are practically unchanged. The bagging market is in a sound position. Scrap and gunny are going forward in satisfactory volume and prices are steady to firm.

Rags

No radical changes were reported in the domestic rag market. Cotton cuttings continue in moderate request. Roofing rags are rather easy. Mixed rags are going forward into consumption at a normal pace for the time of year. Prices are generally holding to formerly quoted levels. The imported rag situation remains unsatisfactory.

Waste Paper

The higher grades of paper stock are exhibiting a strong undertone. Hard white envelope cuttings are still very active and soft white shavings are in excellent request. Book stock continues fairly active. The lower grades of waste paper continue weak with the board mills displaying little interest.

Twine

Demand for the various grades of twine is mostly seasonal and business transacted of late has generally been along routine lines. Offerings are ample for immediate requirements. Inquiries for future needs are fairly numerous. While there is keen competition for desirable orders prices are holding to schedule, in most instances.

Cascade Mill To Be Sold

TACOMA, Wash., May 24, 1930.—Judge Ernest Card issued an order Thursday putting all assets of the Cascade Paper Company up for sale on June 5 at 2 p. m. The order followed a report by D. J. Young, the receiver recently appointed by the court, who listed liabilities of $1,290,538, and who declared the company to be "hopelessly insolvent."

The receivership followed a suit brought by the Defiance Lumber Company, a creditor. Liabilities are listed as a bond issue for $675,000, unsecured indebtedness of $565,765, and taxes of $49,773. The assets are listed as the paper plant on Chambers creek and 1,235 shares in the Pacific Tablet Manufacturing Company. No estimate of the value of the assets was made.

In ordering the sale, Judge Card said that if the property was not sold, a foreclosure on the bond issue would cause a greater loss to creditors.

Mr. Young is ordered to report the result of the sale on June 17. He is also empowered to postpone the sale until later, if he feels it advisable.

Eben G. Peabody Dead

FRANKLIN, N. H., May 13, 1930.—Eben G. Peabody, who was connected with the local paper making industry many years, died this morning at the home of his daughter, Mrs. Agnes M. Hill, at Belmont. He was 71 years of age and a native of Augusta, Me. His father was Andrew J. Peabody, and his mother Harriet Davenport Peabody.

Eben Peabody started work in the paper mills when young and was a bookkeeper for the Winnipesaukee Paper Company when the International Paper Company absorbed the local mills. He was promoted to the position of agent by the International Company and remained as such until he was transferred to Vermont, where he superintended a pulp manufacturing plant. Illness forced his retirement from active work and he went to Belmont a few years ago to live with his daughter.

He leaves another daughter, Mrs. Nelson J. Felix, of Millinocket, Me. A sister, Mrs. Alfred Douphinet, resides in this city.

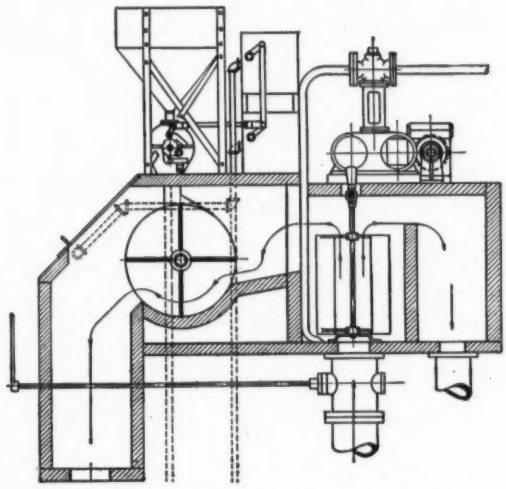
Oxford Paper Co. To Build Power House

RUMFORD, Me., May 26, 1930.—The Oxford Paper Company has placed contract with the Morton C. Tuttle Company, of Boston, to manage the construction of a large power house, the work to start immediately. Charles T. Main, Inc., of Boston, are the designing engineers.

FIDALGO DRYING SYSTEMS

PATENTS GRANTED AND PENDING IN ALL COUNTRIES

STOCK METERING AND MEASURING DEVICE WITH CONSISTENCY REGULATOR



CROSS SECTION THRU METERING AND REGULATING DEVICE.

THIS MACHINE IS DESIGNED FOR ACCURATELY MEASURING ANY DESIRED NUMBER OF DIFFERENT LIQUIDS, POWDERED SOLIDS OR FIBRES WHICH ARE TO BE MIXED TOGETHER TO FORM A SINGLE BATCH.

THIS METERING SYSTEM IS COMPACT, ECONOMICAL TO OPERATE AND NOT SUBJECT TO EXCESSIVE WEAR OR STRAIN.

BULLETIN No. 307 SENT ON REQUEST

FELT CONDITIONER

A SIMPLE AND EFFECTIVE MACHINE THAT HAS DEMONSTRATED ITS ABILITY TO

ELIMINATE FELT MARKS

ELIMINATE BREAKS AFTER WASH-UPS

ELIMINATION OF INCREASED HEAT AFTER WASH-UPS

INCREASE LIFE OF FELT

INCREASE PRODUCTION

INCREASE FINAL MOISTURE CONTENT

WRITE US FOR FURTHER PARTICULARS

TECHNICAL ECONOMIST CORPORATION

122 EAST 42nd STREET NEW YORK, N. Y.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, May 28, 1930.

BLANC FIXE.—The position of the blanc fixe market is practically unchanged. Demand for both the pulp and the powder is seasonal. The pulp is still quoted at from $42.50 to $45.00 per ton, in bulk, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—Most of the business transacted in the bleaching powder market was along routine lines. Supplies are moving into consumption in normal volume for the time of year. Prices remain unchanged. Bleaching powder is quoted at from $2.00 to $2.30 per 100 pounds, in drums, at works.

CASEIN.—Demand for casein was moderately active. Prices remain unchanged. Domestic standard ground is quoted at 14 cents and finely ground at 15½ cents per pound. Argentine standard ground is selling at 14 cents per pound and finely ground at 15½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Contract shipments of caustic soda are going forward to the paper mills in fairly satisfactory volume. Prices are steady. Solid caustic soda is quoted at from $2.90 to $2.95, while the flake and the ground are selling at from $3.30 to $3.35 per 100 pounds, in large drums, at works.

CHINA CLAY.—No radical changes were reported in the china clay market. Supplies are moving into consumption at a steady pace. Prices are unchanged. Imported china clay is quoted at from $15 to $25 per ton, ship side, while domestic paper making clay is selling at from $8 to $13 per ton, at mine.

CHLORINE.—The chlorine market was rather quiet during the past week. Demand from the mills was light. Shipments against contract were below average. Prices are generally holding to schedule. Chlorine is quoted at $2.50 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—Further weaknesses developed in the rosin market. Prices declined slightly. The grades of gum rosin used in the paper mills are now quoted at from $7.10 to $7.30 per 280 pounds, in barrels, at yard. Wood rosin is selling at from $6.20 to $6.80 per 280 pounds, in barrels, on dock.

SALT CAKE.—Offerings of salt cake are sufficient to take care of current requirements. Demand has fallen off slightly. Prices are holding to former levels. Salt cake is quoted at from $22 to $25 per ton, while chrome salt cake is selling at from $20 to $21 per ton, in bulk, at works.

SODA ASH.—Trading in the soda ash market was fairly satisfactory. Contract shipments are going forward at a normal pace, although below the average of last year. Prices are steady. Contract quotations on soda ash, in car lots, at works, are as follows; in bags, $1.32½, and in barrels, $1.55.

STARCH.—Steadiness prevails in the starch market and the industry is in a sound position. Supplies are moving to the paper mills at a satisfactory pace. Prices are holding to former levels. Special paper making starch is quoted at $3.72, in bags; and at $3.99 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—Some improvement was noted in the demand for sulphate of alumina. The contract movement is well up to average. Prices remain steady and unchanged. Commercial grades are quoted at from $1.40 to $1.55, and iron free at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—Consumption of sulphur is being maintained in good volume. Sulphur is still quoted at $18 per ton, at mine, on orders of 1,000 tons, or over, on yearly contracts, and at $20 per ton for any smaller quantity over the same period; on spot and near by car loads, the quotation is $21 per ton.

TALC.—The talc market is exhibiting a fairly steady trend. Supplies are moving into consumption in moderate volume. Prices are unchanged. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at eastern mines, while imported talc is selling at from $18 to $20 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@53.25
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine sized	8.00	@11.00
Book, Cased—		
S. & S. C.	6.00	@ 7.50
M. F.	5.75	@ 7.00
Coated and Enamel	7.50	@12.00
Lithograph	7.50	@12.00
Tissues—Per Ream—		
White No. 1	.75	@ 1.00
Anti-Tarnish	1.35	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .80
Kraft	1.00	@ 1.10
Manila	.75	@ .80
Kraft—		
No. 1 Domestic	5.75	@ 6.25
No. 2 Domestic	3.50	@ 5.00
Southern	3.00	@ 4.50
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

(Delivered New York)

News, per ton—		
Rolls, contract	62.00	@ —
Rolls, spot	62.00	@ —
Sheets	67.00	@ —
Side Runs	47.00	@52.00
Boards—per ton—		
News	37.50	@ —
Straw	50.00	@ —
Chip	35.00	@ —
Binders' Boards	65.00	@70.00
Wood Pulp	90.00	@95.00
65 Test Jute Liner	45.00	@47.50
85 Test Jute Liner	50.00	@55.00
Sgl. Mla. Ll. Chip	47.50	@50.00

Mechanical Pulp

(On Dock)

No. 1 Imported—		
Moist	28.00	@30.00
Dry	30.00	@32.00

(F. o. b. Mill)

No. 1 Domestic	26.00	@30.00
Screenings	10.00	@15.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.25	@ 4.25
Easy Bleaching	2.75	@ 2.90
No. 1 strong unbleached	2.50	@ 2.65
Mitscherlich unbleached	2.50	@ 2.85
No. 2 strong unbleached	2.35	@ 2.50
No. 1 Kraft	1.85	@ 2.15
No. 2 Kraft	1.75	@ 1.90
Sulphate—		
Bleached	3.40	@ 3.85

(F. o. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	3.00	@ 4.75
Easy Bleaching Sulphite	2.55	@ 2.85
News Sulphite	2.35	@ 2.60
Mitscherlich	3.00	@ 3.25
Kraft (Domestic)	2.10	@ 3.30
Soda Bleached	2.90	@ 3.20
Coarse	.75	@ .95
Refined	1.65	@ 1.85

Domestic Rags

New Rags

(Prices to Mill f. o. b N. Y.)

Shirt Cuttings—		
New White, No. 1	9.25	@ 9.75
New White, No. 2	7.00	@ 7.50
Silesias No. 1	7.50	@ 8.00
New Unbleached	10.50	@11.00
New Blue Prints	5.25	@ 5.50
New Soft Blacks	5.25	@ 5.75
Blue Overall	7.25	@ 7.75
Washables	4.75	@ 5.25
Fancy	5.50	@ 6.00
Mixed Khaki Cuttings	4.75	@ 5.25
Pink Corset Cuttings	8.00	@ 8.50
O D. Khaki Cuttings	5.15	@ 5.75
Men's Corduroy	3.75	@ 4.25
New Mixed Blacks	3.50	@ 3.75

Old Rags

White, No. 1—		
Repacked	5.50	@ 6.00
Miscellaneous	4.50	@ 5.00
White, No. 2—		
Repacked	3.00	@ 3.50
Miscellaneous	2.50	@ 2.75
St. Soiled, White	2.00	@ 2.15
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.70	@ 1.80
No. 1	1.70	@ 1.80
No. 2	1.50	@ 1.60
No. 3	1.30	@ 1.40
No. 4	1.25	@ 1.35
No. 5A	.90	@ 1.05

Foreign Rags

New Rags

New Dark Cuttings	2.50	@ 3.00
New Mixed Cuttings	2.75	@ 3.25
New Light Silesias	7.00	@ 7.50
Light Flannelettes	7.50	@ 8.00
Unbleached Cuttings	10.00	@11.00
New White Cuttings	10.00	@10.50
New Light Oxfords	7.00	@ 7.50
New Light Prints	5.50	@ 6.50

Old Rags

No. 1 White Linens	7.25	@ 8.00
No. 2 White Linens	5.75	@ 6.75
No. 3 White Linens	4.75	@ 5.25
No. 4 White Linens	3.00	@ 3.50
No. 1 White Cotton	5.50	@ 6.50
No. 2 White Cotton	2.75	@ 3.75
No. 3 White Cotton	3.00	@ 4.00
No. 4 White Cotton	1.95	@ 2.15
Extra Light Prints	1.95	@ 2.15
Ord. Light Prints	2.25	@ 2.50
Med. Light Prints	1.95	@ 2.10
Dutch Blue Cottons	2.15	@ 2.30
French Blue Linens	2.65	@ 2.75
German Blue Linens	2.30	@ 2.50
German Blue Cottons	2.00	@ 2.10
Checks and Blues	1.85	@ 2.00
Lindsay Garments	1.85	@ 1.95
Dark Cottons	1.45	@ 1.50
Old Shopperies	1.40	@ 1.45
New Shopperies	1.35	@ 1.40
French Blues	2.00	@ 2.10

Old Rope and Bagging

(Prices to Mill f. o.b. N. Y.)

Gunny No. 1—		
Foreign	1.60	@ 1.70
Domestic	1.65	@ 1.75
Wool Tares, light	1.60	@ 1.65
Wool Tares, Heavy	1.60	@ 1.70
Bright Bagging	1.60	@ 1.70
Small Mixed Rope	1.25	@ 1.40
Manila Rope—		
Foreign	3.85	@ 4.15
Domestic	4.25	@ 4.50
New Burlap Cut	2.75	@ 3.00
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, white, No. 1	3.00	@ 3.25
Hard, white, No. 2	2.40	@ 2.55
Soft, white, No. 1	2.65	@ 2.75
White envelope cuttings	2.90	@ 3.10
Flat Stock—		
Stitchless	1.45	@ 1.55
Overissue Mag.	(1.45	@ 1.56
Solid Flat Book	1.40	@ 1 50
Crumpled No. 1	1.00	@ 1.10
Solid Book Ledger	2.00	@ 2.10
Ledger Stock	1.40	@ 1.50
New B. B. Chips	.35	@ .45
Manilas—		
New Env. Cut.	2.40	@ 2.60
New Cuttings	1.50	@ 1.75
Extra No. 1 old	1.25	@ 1.35
Print	.60	@ .65
Bogus Wrapper	.60	@ .65
Container	.40	@ .50
Old Kraft Machine—		
Compressed bales	1.65	@ 1.75
News—		
No. 1 White News	1.65	@ 1.75
Strictly Overissue	.55	@ .65
Strictly Folded	.45	@ .55
No. 1 Mixed Paper	.25	@ .30
Common Paper	.15	@ .20

This Digester Blow-off Valve will give you many years of service.

EXCEPTIONALLY long service under severe conditions is given by Eastwood "Perfection" Digester Blow-Off Valves. Chiefly because the disc and seat ring are *easily changed* when worn without taking the valve out of line. They come in acid-resisting Bronze, with Stainless Steel trimmings, if desired.

The valve is easily *cleaned* through the flanged cleanout handhole plate.

EASTWOOD WIRE CORPORATION
Established 1877, Belleville, N. J.
"American Paper Made On American Wires"

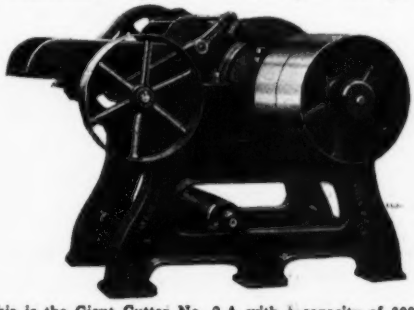
EASTWOOD
"Perfection" WIRES
"Perfection" VALVES

SPEED
AND SURE PERFORMANCE in cutting RAGS, BURLAP, BAGGING, ROPE

TAYLOR, STILES & COMPANY GIANT REG. U.S. PAT. OFF. RIEGELSVILLE, N.J. U.S.A.

if your plant is equipped with RAG CUTTERS

the standard of the world for 59 years



This is the Giant Cutter No. 2-A with a capacity of 3000 lbs. per hour. A strong, heavy machine designed for cutting thread waste, jute butts, burlap, gunny bagging, magazines, catalogs, old papers and all grades of rags.

GIANT RAG CUTTERS HAVE CAPACITIES RANGING FROM 1 ton to 5 tons per hour.

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Riegelsville, N. J.
CANADIAN REPRESENTATIVES
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SOLE AGENTS FOR EUROPE
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CLAY

AMERICAN MADE FOR AMERICAN TRADE

500 Tons Daily

TWO LEADING AMERICAN CLAYS

H.T. BRAND

FOR COATING & FILLING AND KLONDYKE BRAND FILLER

EDGAR CLAYS ARE THE RESULT OF ALMOST A HALF CENTURY OF EXPERIENCE IN WASHING CLAYS.

TECHNICAL SERVICE AVAILABLE BOTH FOR COATING AND LOADING WITHOUT CHARGE.

Send for Samples

EDGAR BROS. CO.
50 Church St. Hudson Terminal Bldg.
New York City

Twines
(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrappings, 3-6 Ply—			
No. 1	.19	@	.21
No. 2	.18	@	.20
Tube Rope—			
4-ply and larger	.16	@	.17
Fine Tube Yarn—			
5-ply and larger	.21	@	.25
4-ply	.25	@	.29
3-ply	.28	@	.32
Unfinished India—			
Basis	.13	@	.14
Paper Makers Twine Balls	.11	@	.12
Box Twine, 2-3 ply	.15	@	.17
Jute Rope	.17	@	.19
Amer. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.16	@	.18
No. 2 Basis	.14	@	.16
Sisal Lath Yarn—			
No. 1	.14	@	.16
No. 2	.12	@	.14
Manila Rope	.22	@	.24

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¾
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¾
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.06¼	@	.06½
Southern Kraft	4.25	@	4.50
No. 2 Kraft	.04	@	.04¼
Wood Tag Boards	.04¼	@	.06¾
Sulphite Sreenings	.03	@	.03¼
Manila Tissue—			
24x36 Sheet	.07	@	.07¼
White Tissue—			
20x30 Sheet	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	37.50	@	42.50
Solid News	47.50	@	—
Solid News	40.00	@	45.00
Manila Lined Chip	50.00	@	55.00
Container Lined—			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.35	@	2.40
White Env. Cut-			
No. 1 Soft Shavings	2.10	@	2.15
No. 1 Mixed	.60	@	.70
No. 2 Mixed	.50	@	.60
Ledger & Writings	1.25	@	1.35
Solid Books	1.05	@	1.10
Blanks	1.60	@	1.65
Krafts	1.65	@	1.75
New Kraft Cuts	2.15	@	2.25
Manila Envelope Cuttings	1.75	@	1.80
Ex. No. 1 Manila	1.30	@	1.45
Print Manila	.60	@	.70
Folded News (over-issue	.50	@	.60
Old Newspapers—			
No. 1	.60	@	.65
No. 2	.50	@	.55
Mixed Papers—			
No. 1	.45	@	.50
Roofing Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.05	@	.40
Ledgers	.08	@	.40
Writings—			
Superfine	.12½	@	.18
Extra fine	.18	@	.22
Fine	.17	@	.26
Fine, No. 2	.15	@	.25
Fine, No. 3	.09	@	.20
Book, M. F.	.05	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.09	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.07	@	.09
Manila Sul., No. 1	.04	@	.05½
Manila No. 2	.03	@	.04
No. 2 Kraft	.03½	@	.04
No. 1 Kraft	.05½	@	.06½
Common Bogus	.03½	@	.04
(Delivered Philadelphia)			
News Print Rolls	62.00	@	—
Straw Board	52.50	@	70.00
News Board	37.50	@	38.50
Chip Board	32.50	@	35.00
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00		
No. 2, per ton	70.00		
Carload lots	68.00	@	70.00
Tarred Felts—			
Regular	55.50	@	57.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.10½	@	.11
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07	@	.09
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable, No. 1	.04½	@	.05
Blue Overall	.07½	@	.08
Cottons—According to grades—			
Washable, No. 2	.03	@	—
New Blue	.03	@	.03½
Fancy	.05½	@	.06
New Black Soft	.05	@	.05¼
New Light Seconds	.02½	@	.03
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.05½	@	.05¾
No. 2 Mixed	.04½	@	.04¾
Corduroy	.03	@	.03½
New Canvas	.08½	@	.09
New Black Mixed	.03¾	@	.04½

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	3.50	@	4.00
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.65	@	2.75
No. 2 Hard White	2.30	@	2.50
No. 1 Soft White	2.25	@	2.50
No. 2 Soft White	1.40	@	1.60
No. 1 Mixed	1.20	@	1.25
No. 2 Mixed	.75	@	.80
Solid Ledger Stock	1.55	@	1.65
Writing Paper	1.15	@	1.25
No. 1 Books, heavy	1.15	@	1.20
No. 2 Books, light	.90	@	1.00
No. 1 New Manila	2.25	@	2.30
No. 1 Old Manila	1.50	@	1.60
Print Manila	.75	@	.80
Container Manila	.50	@	.60
Old Kraft	1.35	@	1.40
Common Paper	.30	@	.40
No. 1 Mixed Paper	.25	@	.30
Straw Board, Chip	.35	@	.40
Binders Board, Chip	.35	@	.45
Overissue News	.45	@	.50
Old Newspaper	.25	@	.30

Domestic Rags (Old)

White No. 1—			
Repacked	4.25	@	4.50
Miscellaneous	3.50	@	3.75
M. G.	7.00		—
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.60	@	1.80
Black Stockings (Export)	3.90	@	4.25
Roofing Stock—			
Foreign No. 1	1.65	@	1.75
Repacked	.01½	@	.01½
No. 2	1.20	@	1.25
No. 3 (Roofing)	1.10	@	1.20
No. 4	1.00	@	1.15
No. 5A	.75	@	.85
B	.65	@	.75
C	.65	@	.75

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.05¾	@	—
No. 2 Kraft	.03½	@	.04½
Common Bogus	.02	@	.02¾
Delivered New England points			
News Print Rolls	61.50	@	—
Straw Boards, rolls	.009		52.50
Straw Board in Sheets, basis 35s to 70s	54.50	@	55.00
Filled News Board	37.50	@	40.00
Chip Board	35.00	@	37.50
Single Manila Lined Chip	47.50	@	52.50
Single White, Patent Coated Newsboard Bender	65.00	@	80.00
Wood Pulp Board	75.00	@	80.00
Binder Boards	70.00	@	75.00
(F. o. b. Mill)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.50	@	2.60
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	—	@	2.25
No. 1 Books, Heavy	1.30	@	—
No. 1 Books, Light	1.05	@	—
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	.90	@	1.00
White Blank News	1.60	@	1.70
Old Kraft	1.40	@	1.50
Print Manila	.75	@	.80
No. 1 Mixed Paper	.20	@	.22½
Overissue News	.40	@	.50
Old Newspapers	.35	@	.40
Box Board, Chip	.45	@	.50
Corrugated Boxes	—	@	.40

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	1.70	@	—
Manila Rope—			
Foreign	3.25	@	3.50
Domestic	4.00	@	—
Transmission Rope	2.25	@	2.50
Mixed Strings	.90	@	—
Jute Wool Strings	.90	@	1.00
Jute Carpet Threads	1.05	@	1.15
Scrap Burlaps	1.25	@	1.40
Scrap Sisal	1.55	@	1.65
Scrap Sisal for shredding	1.75	@	2.00
Wool Tares, heavy	1.60	@	—
New Burlap Cutting	1.75	@	2.00
Australian Wool Pouches	2.50	@	3.00

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.08	@	.08½
Silesias No. 1	.06	@	.06¾
New Unbleached	—	@	.09¼
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06¼	@	.06½
New Black, soft	.04	@	.04¼
Khaki Cuttings	.04	@	.04¼
O. D. Khaki	.05	@	—
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.75	@	3.00
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	1.90
Black Stockings	—	@	4.00
Roofing Stock—			
No. 1	1.56	@	1.65
No. 2	1.00	@	1.10
No. 3	.90	@	1.00
No. 4	.95	@	1.05

Foreign Rags
(F. o. b. Boston

Dark Cottons	1.20	@	1.30
New No. 1 Shirt Cuttings	9.00	@	9.50
Dutch Blues	2.00	@	2.12½
Lace Curtains	4.50	@	4.75
New Checks & Blues	4.25	@	4.60
Old Fustians	1.90	@	2.00
Old Linsey Garments	1.50	@	1.65

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¼	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09¼	@	.10
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and Litho	13.25	@	—
No. 2 Coated and Litho	12.25	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.50	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.00	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
White, No. 2	2.00	@	2.25
News, per ton—			
Rolls (contract)	61.50	@	62.00
Sheets	67.00	@	—

Pulp
(F. o. b. Mill)

Ground Wood	30.00	@	32.00
Sulphite easy bleaching	60.00	@	—
Sulphite news grade	60.00	@	—
Sulphite, bleached	72.50	@	75.00
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk. News	1.60	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.40	@	—
Light and Crumpled Book Stock	1.25	@	—
Ledgers and Writ-			
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.85	@	—
Strictly Folded	.85	@	—
No. 1 Mixed Paper	.65	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09½	@	.10
Fancy Shirt Cuttings	.06	@	.06¼

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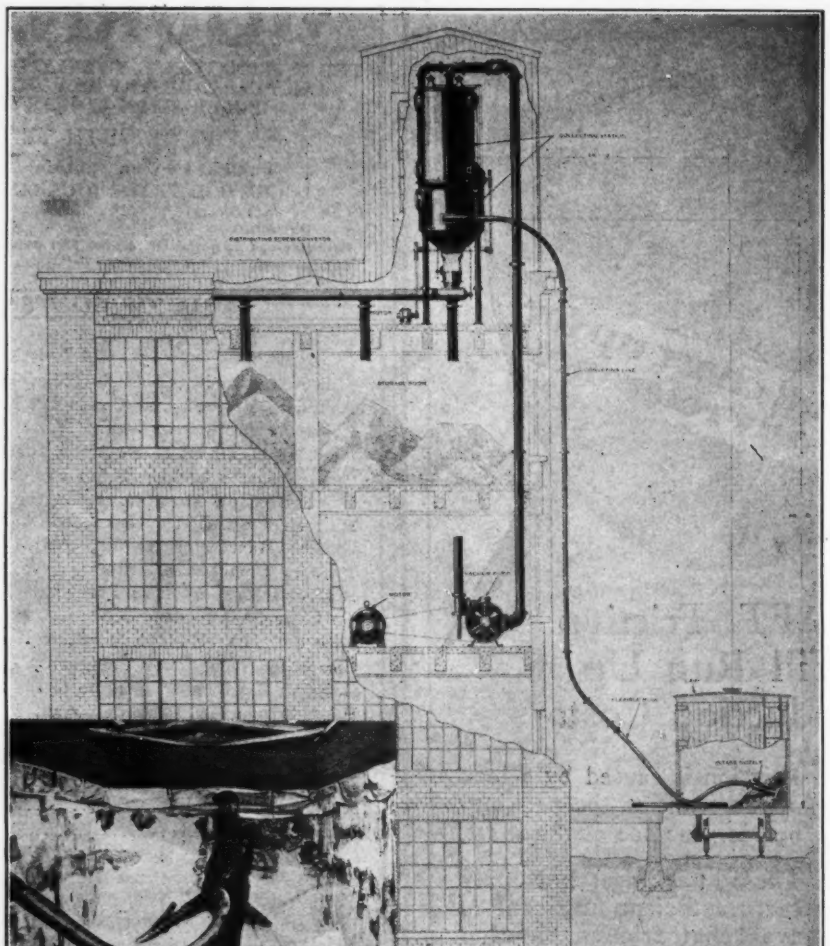
CLAY
PULVERIZED AND AIR WASHED



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